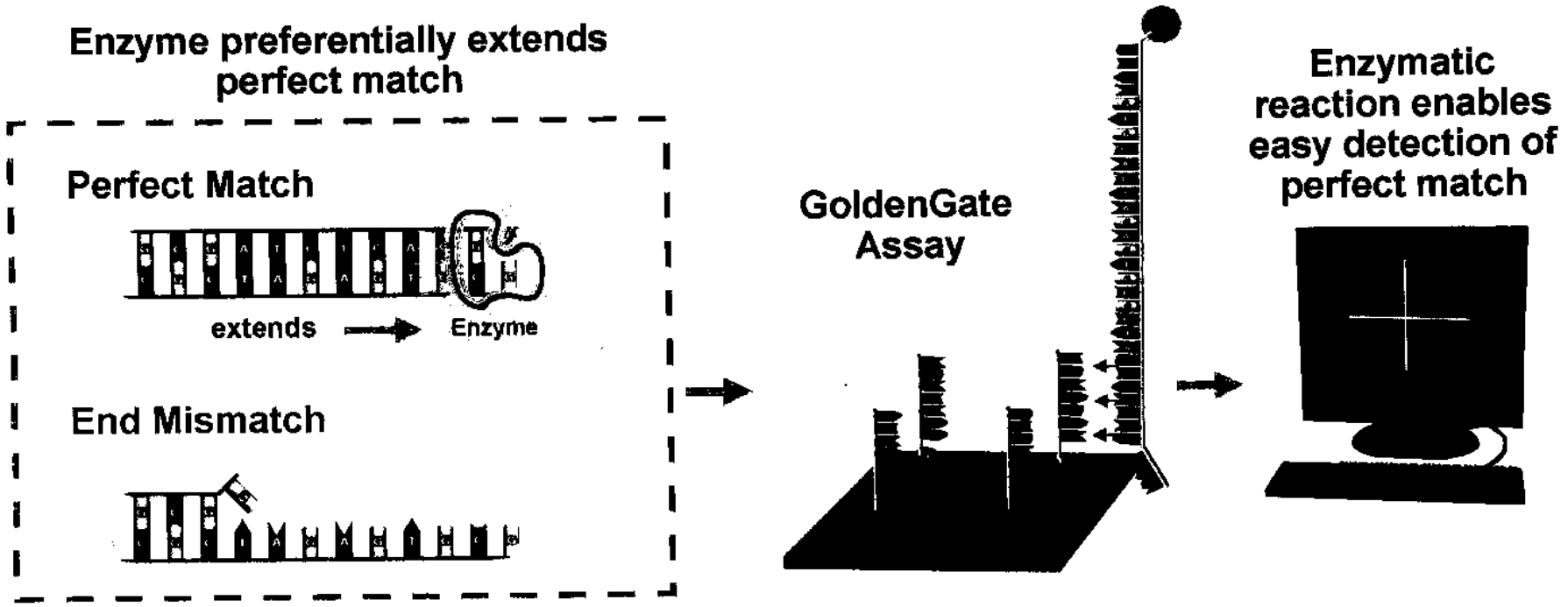
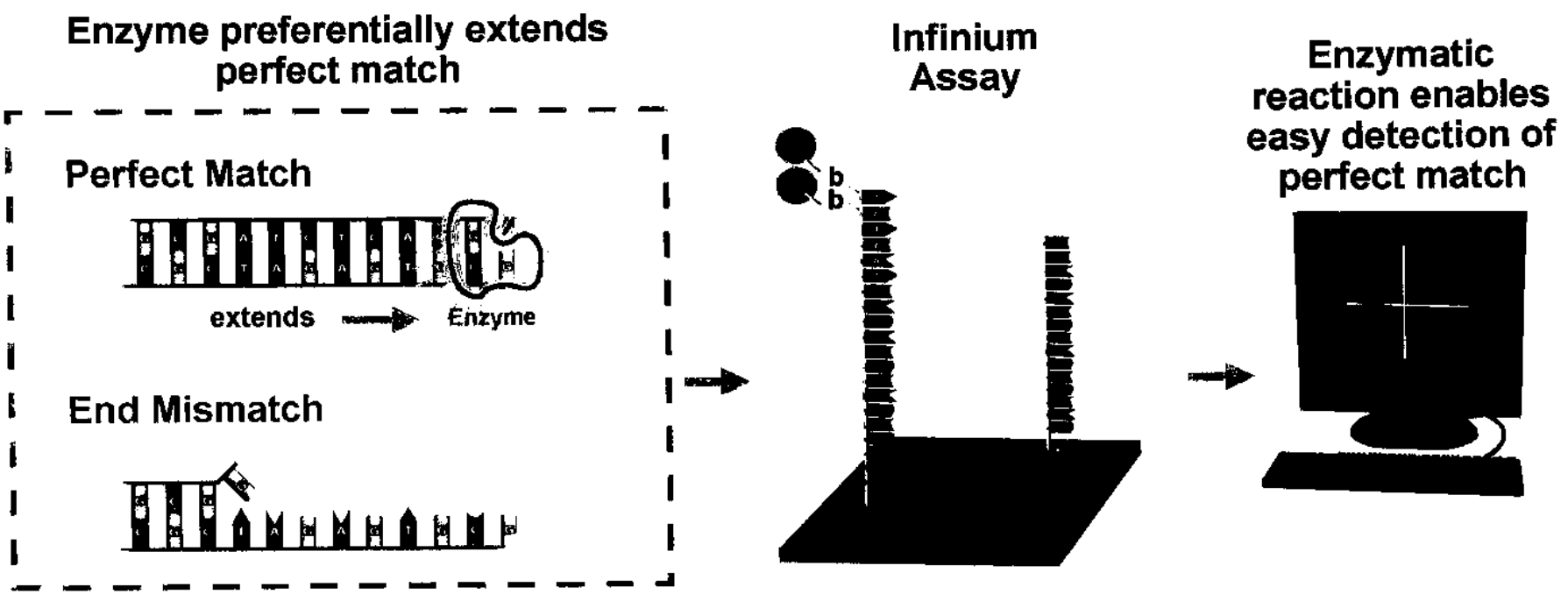
Infinium indicates the extent of enzymatic reaction



Infinium indicates the extent of enzymatic reaction



'716 patent requires a base call by a "*comparison of said plurality of probe intensities to each other*"

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising:

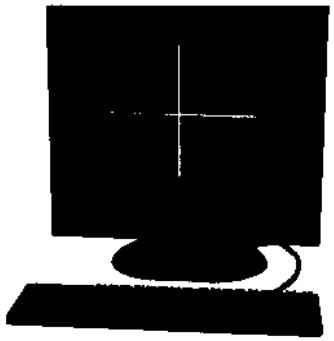
computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates a base call identifying said unknown base according to results of said comparison and [redacted]; and

a computer readable medium that stores said computer codes.

'716 Patent col. 41:59-67; 42:59-67



Base call made by a comparison of probe intensities *to each other*

Base call made according to sequence of nucleic acid probe (i.e., probe at probe location)

Court's Construction

13. The phrase "comparison of said plurality of probe intensities to each other," as used in the claims of U.S. Patent No. 5,795,716, means "an examination of the probe intensities of two or more probes in relation to each other;"

Markman Order at ¶ 13

Illumina's Assays And GenCall Are Substantially Different From '716 Patent Claims

Equivalence	Illumina's Assays/GenCall	'716 Patent
Function	Enzymatic Assay	Hybridization-only
Way	Enzyme + Labeling of probe	Labeled Sample Nucleic Acid + Strength of binding
Result	More accurate genotype calls	Inaccurate base calls

NOT EQUIVALENT -- Why?
Enzymes, Tags, and GenCall

GenCall makes calls based on clustering with training data, *not* "comparison of intensities to each other"

Court's Construction

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

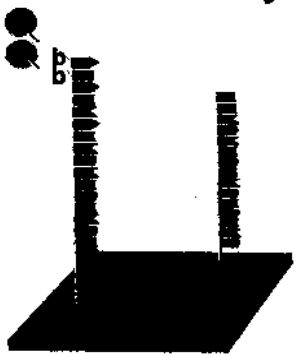
AFFYMETRIX, INC.,	:	
Plaintiff,	:	
v.	:	Civil Action No. 04-901 JJF
ILLUMINA, INC.,	:	
Defendant.	:	

13. The phrase "**comparison of said plurality of probe intensities to each other,**" as used in the claims of U.S. Patent No. 5,795,716, means "an examination of the probe intensities of two or more probes in relation to each other;"

3. the term "substrate," as used in the claims of U.S. Patent No. 6,544,343, means "a material having a rigid or semi-rigid surface;"

Markman Order at ¶ 13

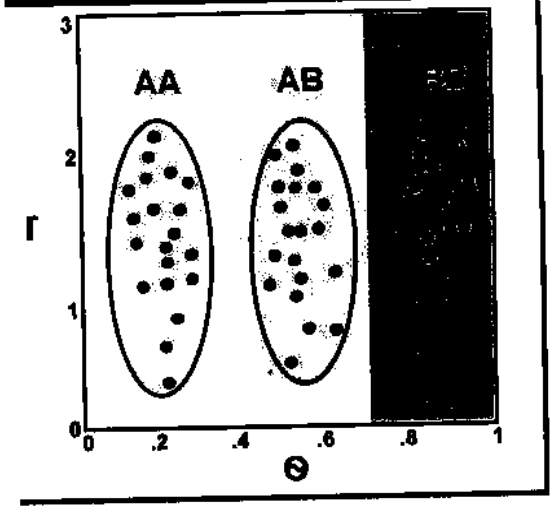
Infinium Assay



GoldenGate Assay

Transformation & Clustering

CLUSTERING WITH TRAINING DATA



'716 Patent Does Not Cover Enzyme-Based Assays Or Tags

'716 File History

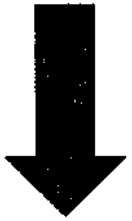
or the Maxam and Gilbert method. More specifically, Weiss describes utilizing an enzyme on identical probes that hybridize with tags in the fragments of the nucleic acid ladder. The

Weiss and Stockham do not disclose or suggest inputting probe intensities to identify an unknown base where the probe intensities indicate the extent of hybridization of probes differing by a single base and the sample nucleic acid sequence.

In stark contrast, the present invention compares probe intensities that indicate the extent of hybridization of probes differing by a single base and the sample nucleic acid sequence.

IAFP00000402-403

Illumina's assays use *enzymes and tags*



They are in "stark contrast" to the invention of the '716 patent

Illumina's products do not infringe the '716 patent

Asserted Claims	GoldenGate-GenCall	Infinium-GenCall
Claim 1 Claim 5 Claim 9	▪ No probe intensity ▪ No intensity indicating relative strength of binding ▪ No base call based on comparison of probe intensities to each other ▪ No array of probes	▪ No probe intensity ▪ No intensity indicating relative strength of binding ▪ No base call based on comparison of probe intensities to each other

NO INFRINGEMENT -- Why?
Enzymes, Tags, and GenCall

'531 Claims Require Making A "Biological Chip Plate"

'531 Patent Claim 1

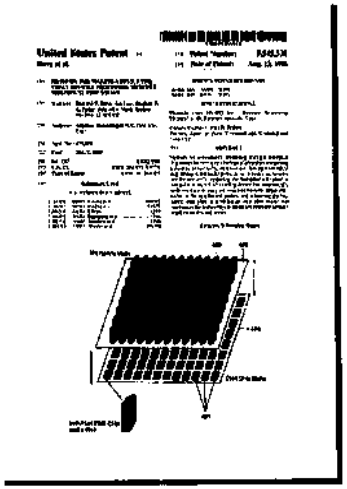
1. A method for making a biological chip plate comprising the steps of:

(a) providing a body comprising a plurality of wells defining spaces;

(b) providing a wafer comprising on its surface a plurality of probe arrays, each probe array comprising a collection of probes, at least two of which are different, arranged in a spacially defined and physically addressable manner;

(c) attaching the wafer to the body so that the probe arrays are exposed to the spaces of the wells.

Claim 1, '531 Patent, col. 12:40-51



'531 Patent Specification

D. Array: A collection of probes, at least two of which are different, arranged in a spacially defined and physically addressable manner.

E. Biological Chip: A substrate having a surface to which one or more arrays of probes is attached. ...

* * *

G. Biological Chip Plate: A device having an array of biological chips in which the probe array of each chip ...

'531 Patent col. 4:1-25

Illumina Does Not Infringe the '531 Patent

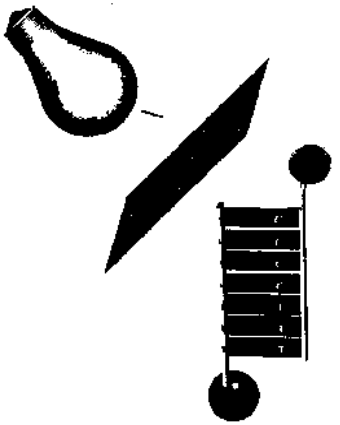
Asserted Claims	Accused Methods
Claim 1 Claim 2	▪ No ". . . making a biological chip plate" ▪ No "providing a wafer comprising on its surface a plurality of probe arrays . . ." ▪ No "attaching the wafer to the body so that the probe arrays are exposed to the spaces of the wells"

Alternative Designs

Patent	Alternative Designs
'243 Patent	▪ White light with filter to excite fluorescence ▪ Nanocrystals to label DNA ▪ Non-covalent attachment of DNA to bead
'365 Patent	▪ Non-barcode identification systems ▪ Radio frequency identification chips
'531 Patent	▪ One set of beads per slide

Alternative Designs

- White light with filter to excite fluorescence currently used in decoding process

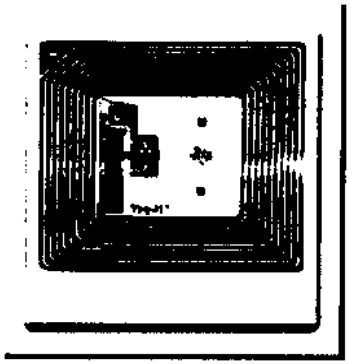


- Nanocrystals to label DNA has been patented by Illumina

- Non-covalent attachment of DNA to bead is currently used in the GoldenGate / DASL assays

Alternative Designs

- **Non-barcode identification systems**



- **One set of beads per slide**

Illumina's BeadChip Does Not Have A "Wafer"

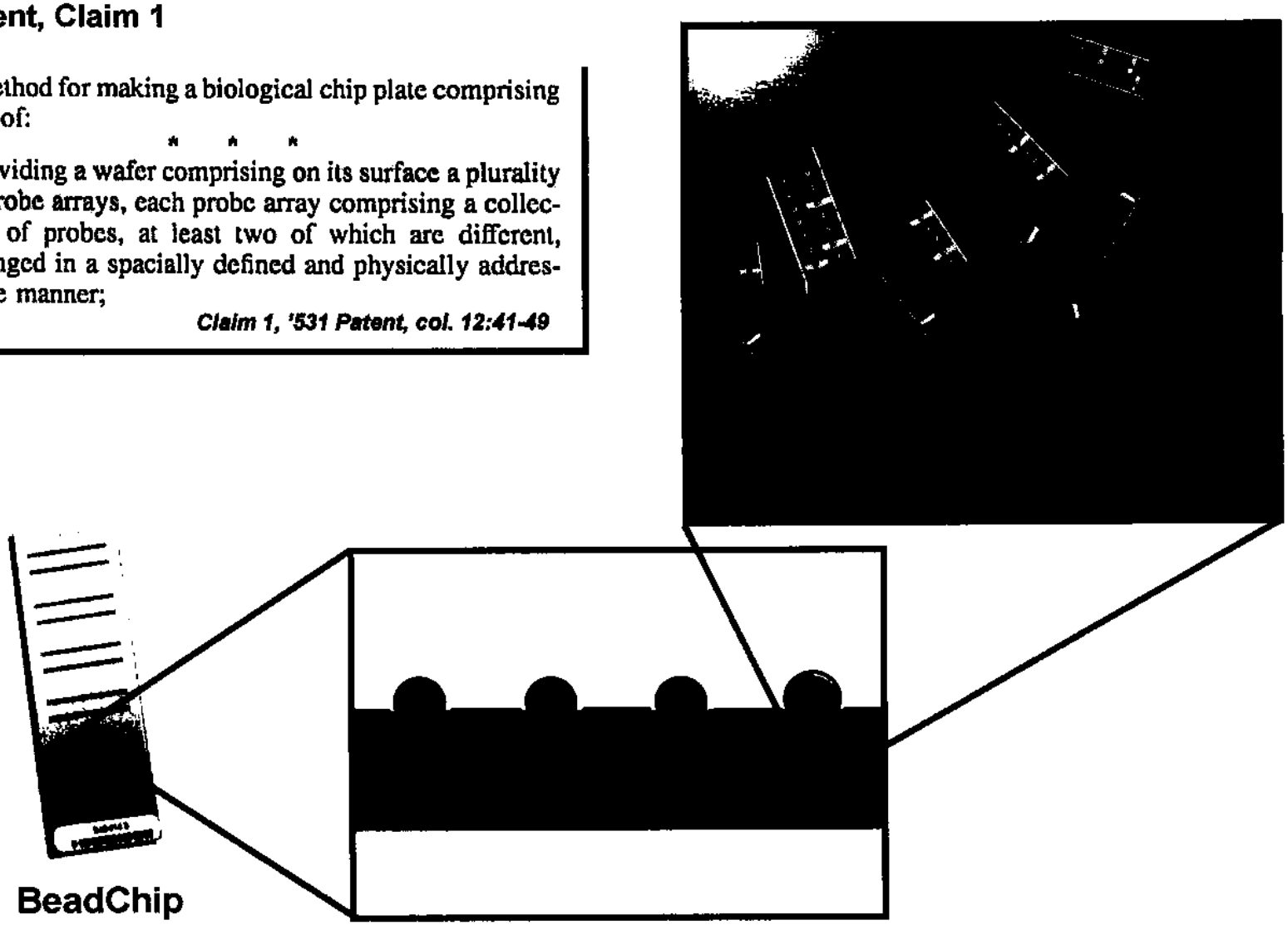
'531 Patent, Claim 1

1. A method for making a biological chip plate comprising the steps of:

* * *

(b) providing a wafer comprising on its surface a plurality of probe arrays, each probe array comprising a collection of probes, at least two of which are different, arranged in a spacially defined and physically addressable manner;

Claim 1, '531 Patent, col. 12:41-49



BeadChip

Illumina's Products Do Not Meet The Attaching Step According To Affymetrix's Own Expert

Affymetrix's Expert

It is my opinion that the '126 PCT application does not describe any method for attaching ...

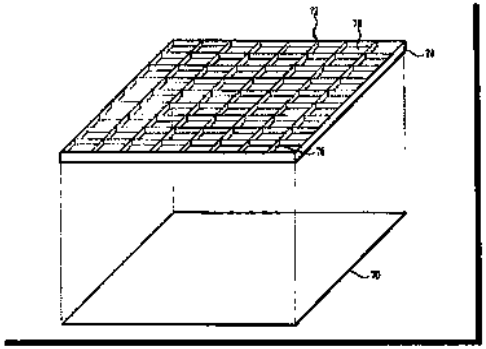
Felder Decl. ¶ 11

Chetverin '126 Patent Application

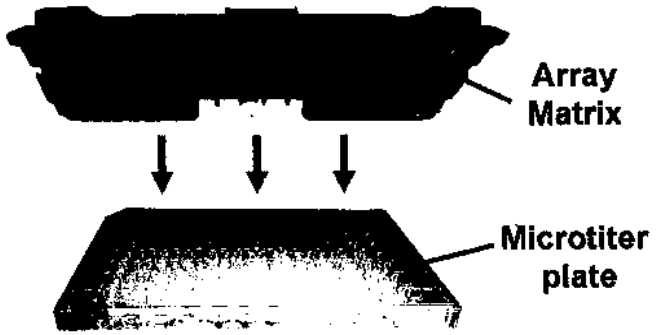
The sectioned array can also be created by applying a lattice to the solid support and bonding it to the surface so that each area is surrounded by impermeable walls. An exploded perspective view of such a sectioned array is shown in Figure 3.

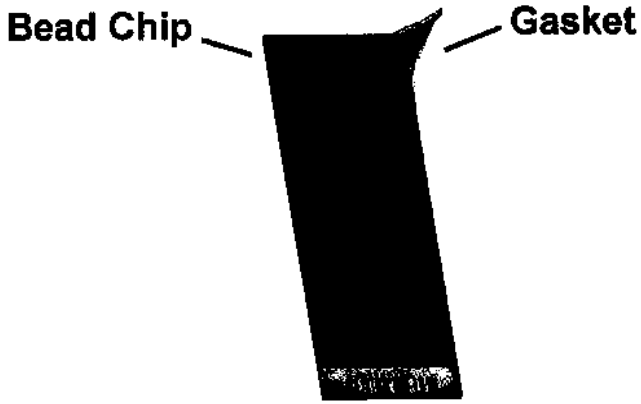
WO 93/17126 at 7

Fig. 3 of '463 Patent



Illumina's Products – NO "attaching"





Illumina's Products Do Not Meet The Attaching Step According To Affymetrix's Own Expert

Affymetrix's Expert

11. The '126 PCT application also depicts, in Figure 7, a "survey array" laying on top of a "partialing array." (Exh. B at IAFP00013518). It is my opinion that the '126 PCT application does not describe any method for attaching and providing adequate contact between the "survey array" and the "partialing array," in order to allow sufficient hybridization to occur.

Felder Decl. ¶ 11

Chetverin '126 Patent Application

The sectioned array can also be created by applying a lattice to the solid support and bonding it to the surface so that each area is surrounded by impermeable walls. An exploded perspective view of such a sectioned array is shown in Figure 3.

WO 93/17126 at 7

Fig. 3 of '126 App.

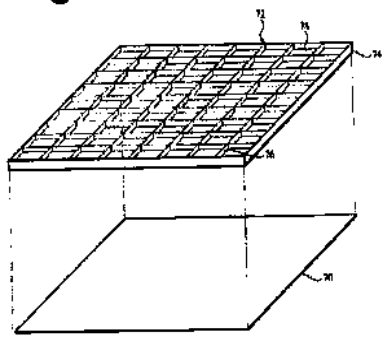
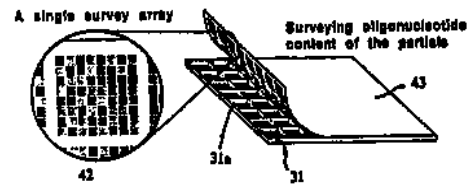
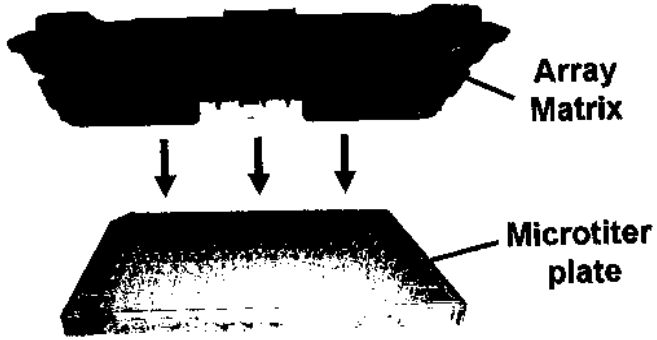
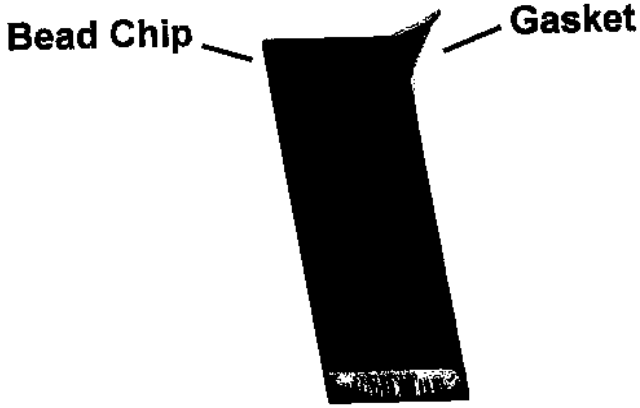


Fig. 7 of '126 App.



Illumina's Products – NO "attaching"





A "Wafer" Has A Single Surface

'531 Patent

This invention contemplates a number of embodiments of the biological chip plate. In a preferred embodiment, depicted in FIG. 4, the biological chip plate includes two parts. One part is a wafer **410** that includes a plurality of biological arrays **420**.

* * *

FIG. 5 depicts a cross-section of this embodiment, showing the wafer **510** having a substrate **520** (preferably transparent to light) and a surface **530** to which is attached an array of probes **540**.

* * *

In another embodiment, the biological chip plate has a wafer having a plurality of probe arrays and a material resistant to the flow of a liquid sample that surrounds each probe array.

'531 Patent col. 8:1-5, 8:11-14, 8:28-31

FIG. 3 depicts an example of a biological chip plate **300** used in the methods of this invention based on the standard 96-well microtiter plate in which the chips are located at the bottom of the wells. Biological chip plates include a plurality of test wells **310**, each test well defining an area or space for the introduction of a sample, and each test well comprising a biological chip **320**, i.e., a substrate and a surface to which an array of probes is attached, the probes being exposed to the space. FIG. 7 shows a top-down view of a well of a biological chip plate of this invention containing a biological chip on the bottom surface of the well.

* * *

In another preferred embodiment, depicted in cross section in FIG. 6, the plates include a body **610** having preformed wells **620**, usually flat-bottomed. Individual biological chips **630** are attached to the bottom of the wells so that the surface containing the array of probes **640** is exposed to the well space where the sample is to be placed.

'531 Patent col. 7:57-67, 8:22-26

Fig. 5

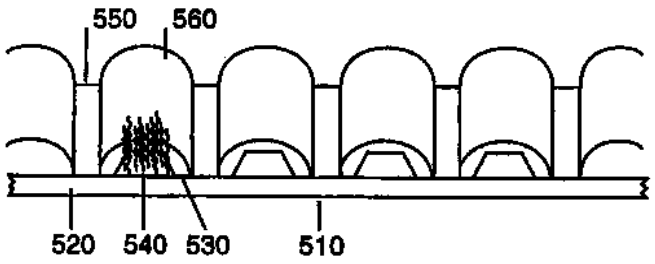
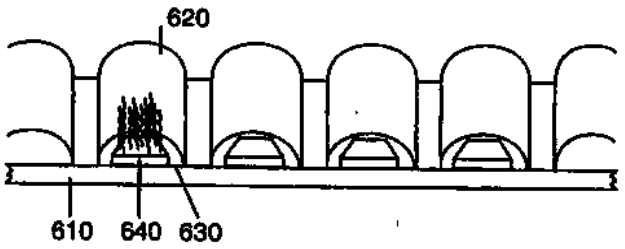
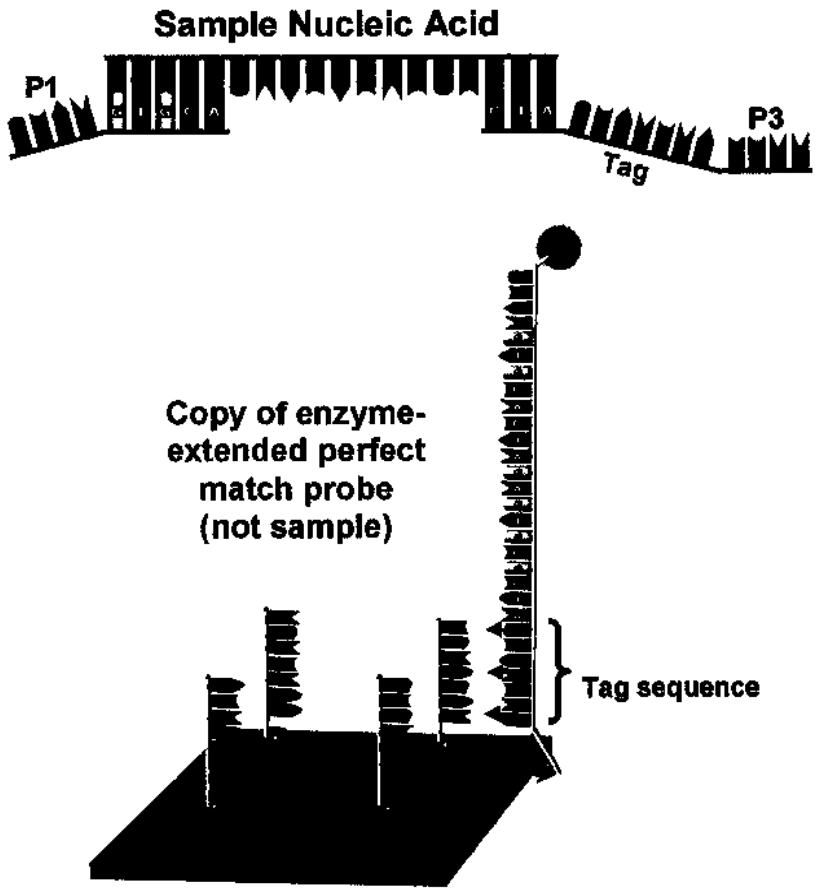


Fig. 6



GoldenGate does not have "probe intensities"

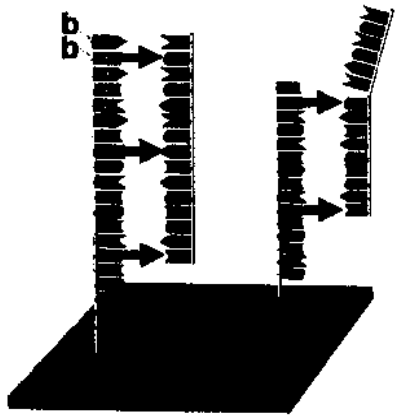
- No *labeled sample* nucleic acid
- Probes do not have a location (probe in solution)
- No probe intensity from labeled sample nucleic acid



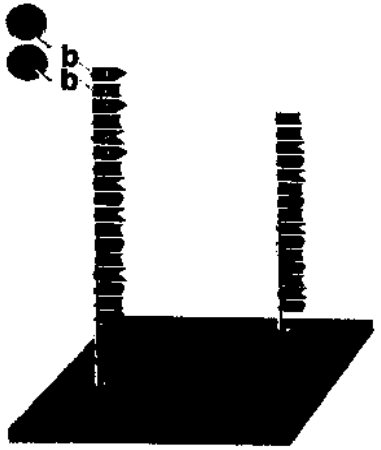
Why are there no "probe intensities"?
Enzymes & Tags

Infinium does not have "probe intensities"

- No *labeled sample* nucleic acid



- Label put on *extended probe* after sample washed away



Why are there no "probe intensities"?
Enzymes

'716 claims require probe intensities that *indicate the relative strength of binding*

Court's Construction

12. The phrase "indicating an extent of hybridization," as used in the claims of U.S. Patent No. 5,795,716, means "indicating the relative strength of binding;"

Markman Order at ¶ 12

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising:

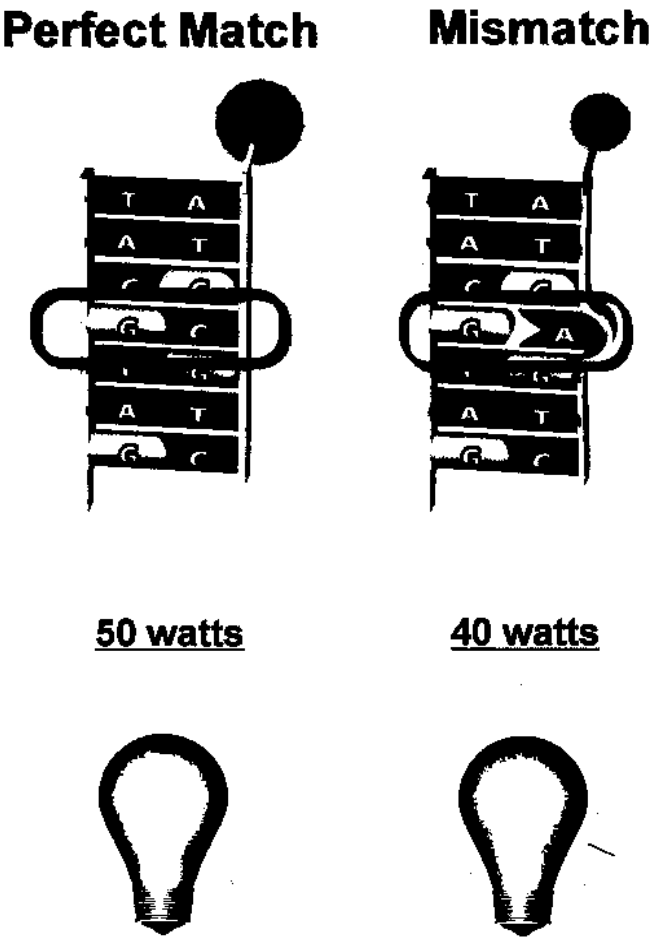
computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

'716 Patent col. 41:59-67; 42:59-67



'716 Patent Claim 1: Applying the claim

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies [redacted] comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates [redacted] according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

'716 Patent col. 41:59-67; 42:59-67

Base-call is of an unknown base in a sample nucleic acid

'716 Patent Claim 1: Applying the claim

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies [redacted] comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates [redacted] according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

'716 Patent col. 41:59-67; 42:59-67

Base call is of an unknown base in a sample nucleic acid

Nucleic acid probe is complementary to a sample nucleic acid

'716 Patent Claim: "probe intensity"

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

'716 Patent col. 41:59-67; 42:59-67

Probe intensity is generated from a labeled sample nucleic acid

Probes have a probe location (usually in an array)

Court's Construction

10. The term "**probe intensity**," as used in the claims of U.S. Patent No. 5,795,716, means "intensity from a labeled sample nucleic acid hybridized to a [redacted]"

Markman Order at ¶ 10

'716 Patent Claim: "probe intensity"

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

Labeled sample nucleic acid must have unknown base to be determined

'716 Patent col. 41:59-67; 42:59-67

Court's Construction

10. The term "probe intensity," as used in the claims of U.S. Patent No. 5,795,716, means "intensity from a labeled sample nucleic acid hybridized to a probe location;"

Markman Order at ¶ 10

'716 Patent Claim: "probe intensity"

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

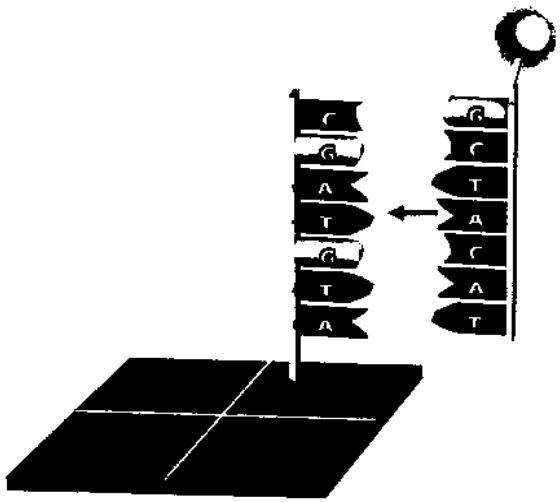
computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

'716 Patent col. 41:59-67; 42:59-67

Labeled sample nucleic acid must have unknown base to be determined

Labeled sample hybridizes to probe at probe location



Court's Construction

10. The term "**probe intensity**," as used in the claims of U.S. Patent No. 5,795,716, means "intensity from a labeled sample nucleic acid hybridized to a probe location;"

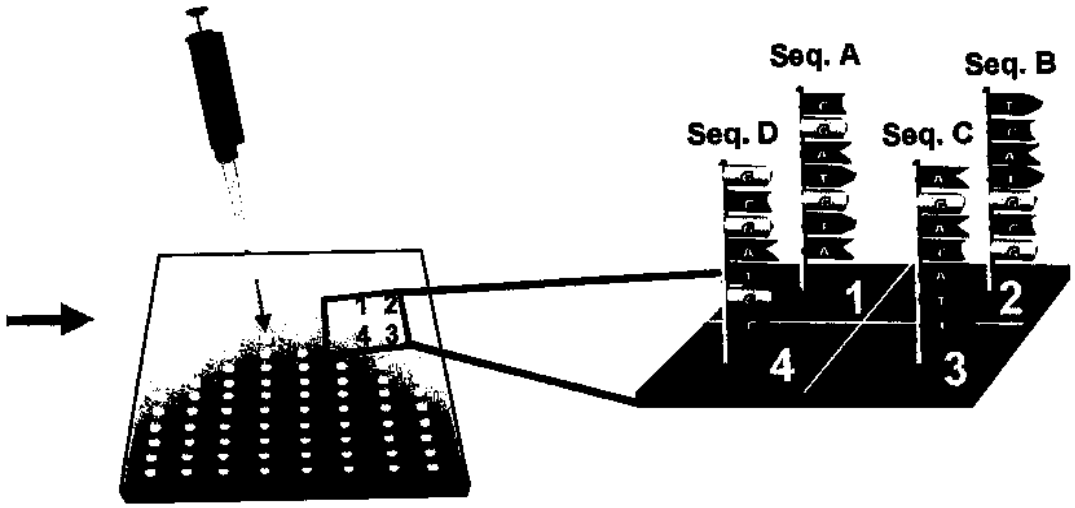
Markman Order at ¶ 10

Accused Arrays Not "Deposited"

Array by Deposition

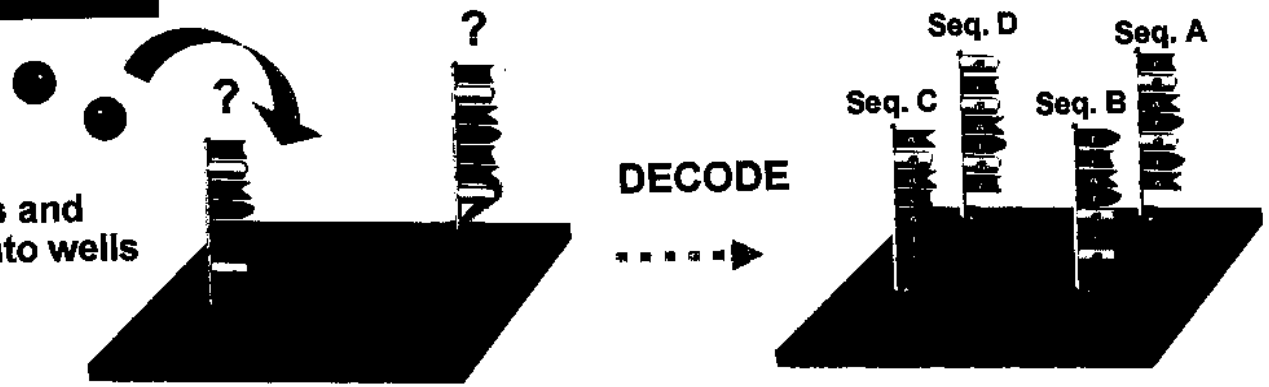
Position	Sequence
1	Seq. A
2	Seq. B
3	Seq. C
4	Seq. D

DNA made then deposited on array at known locations

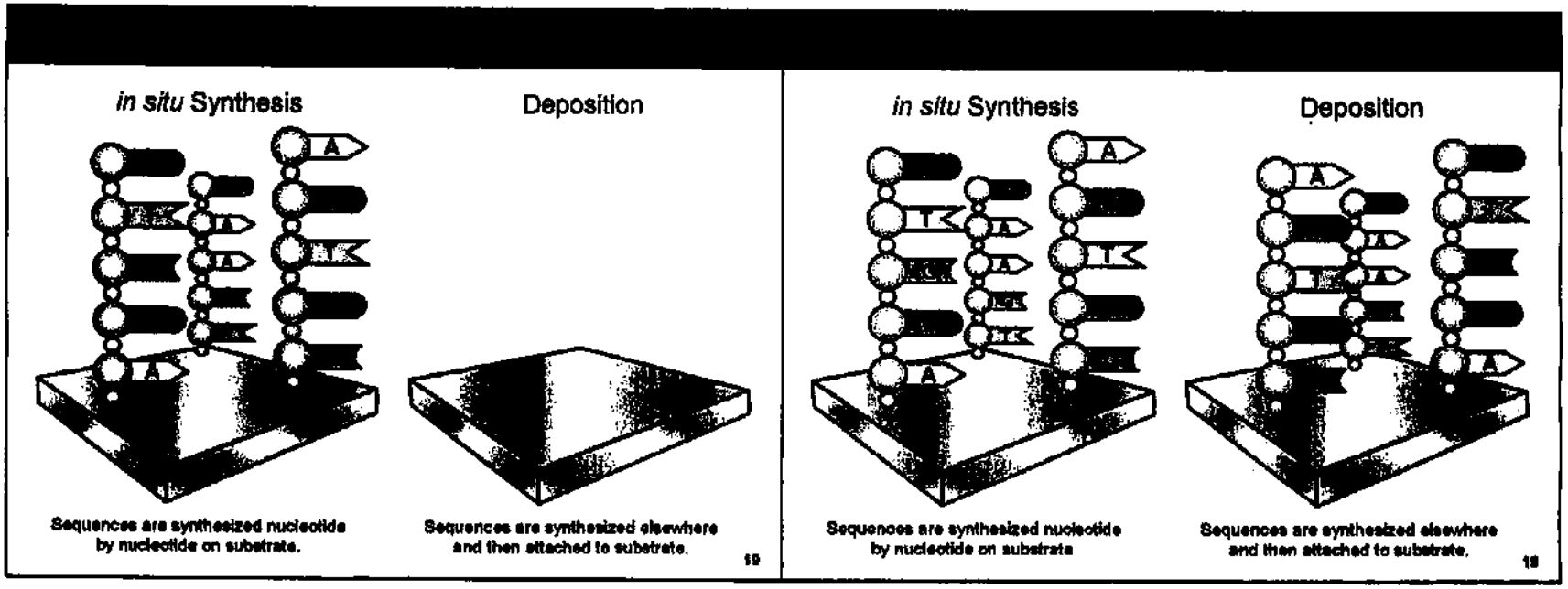


Illumina's Random Array

DNA made on beads and randomly assembled into wells

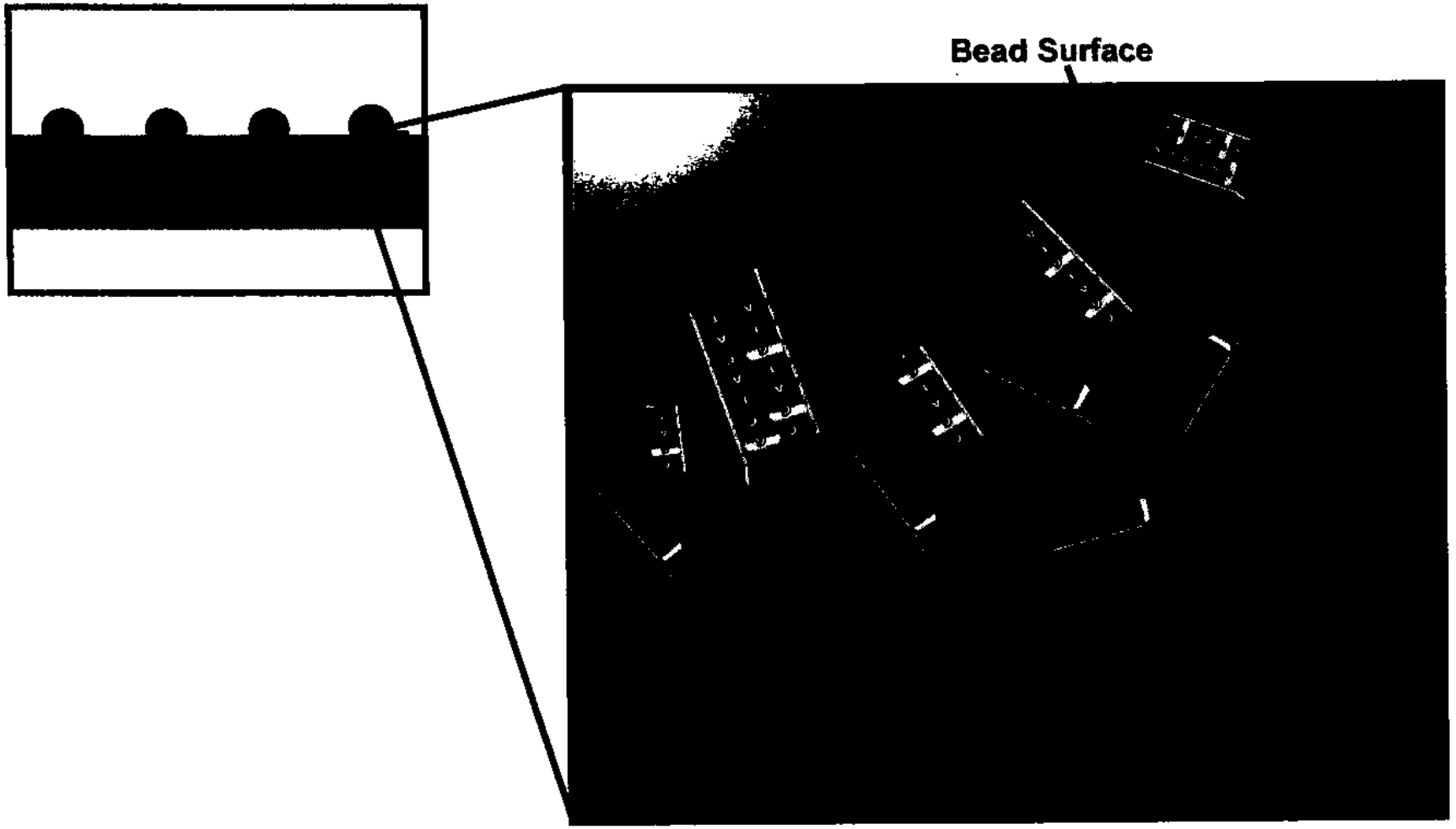


Deposition Of Arrays Defined By Affymetrix



Affymetrix *Markman* Hearing Slide 19

Entire Bead Surface Accessible For Chemical Reactions



'365 Patent Not Infringed

Asserted Claims	[Insert Accused Products and Methods]
Claim 36	▪ No "probe array deposited on a substrate" ▪ No ". . . biological polymers immobilized on said substrate" ▪ No ". . . having a density exceeding 1000 different nucleic acids per cm^2"
Claim 41	▪ No ". . . biological polymers immobilized on said substrate" ▪ No ". . . having a density exceeding 1000 different nucleic acids per cm^2"

GoldenGate/DASL Do Not Have "Biological Polymers Immobilized On A Surface"

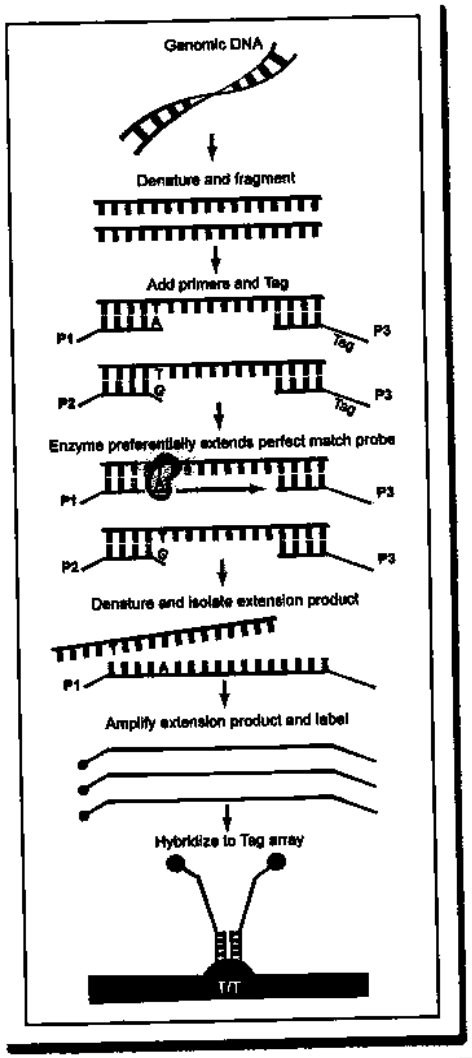
Court's Construction

7. The phrase "**biological polymers immobilized on a surface,**" as used in the claims of U.S. Patent No. 6,399,365, means "two or more surface-immobilized biological polymers that are recognized by a particular target;"

***Markman* Order at ¶ 7**

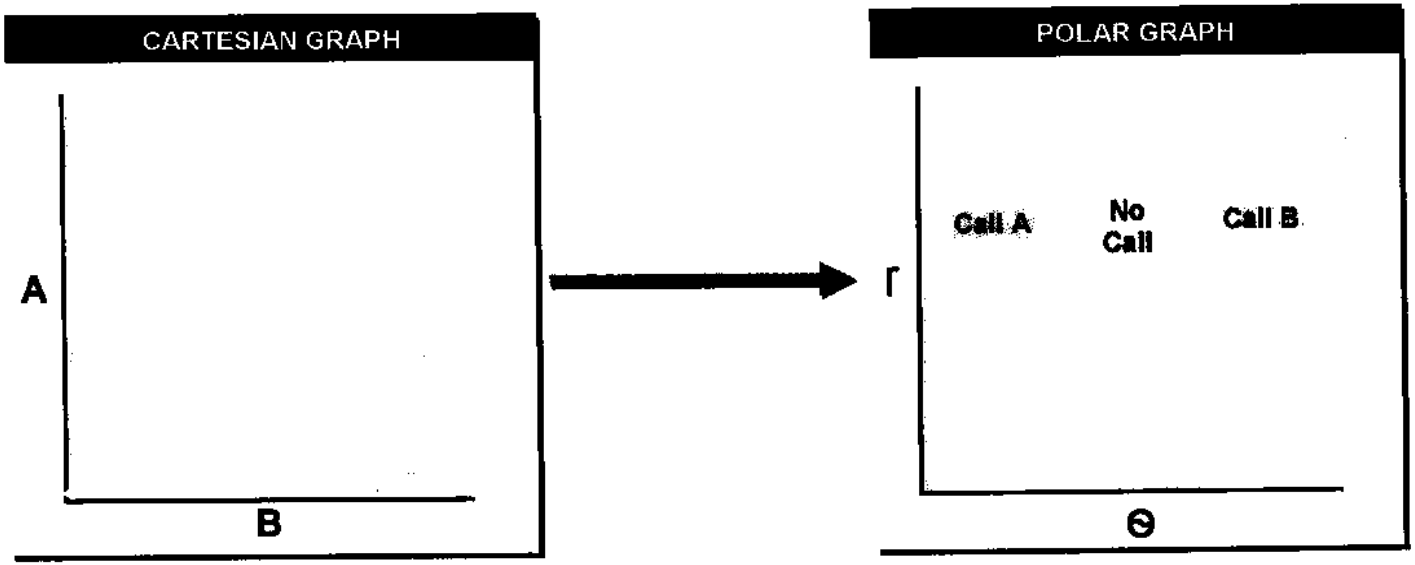
[Insert Trial Testimony Here]

GoldenGate/DASL

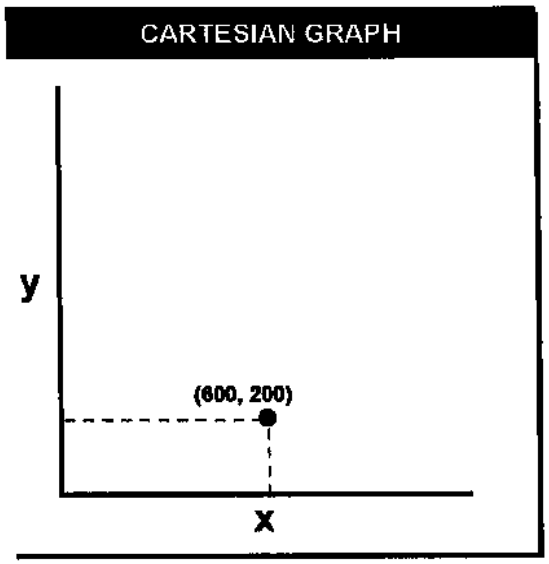


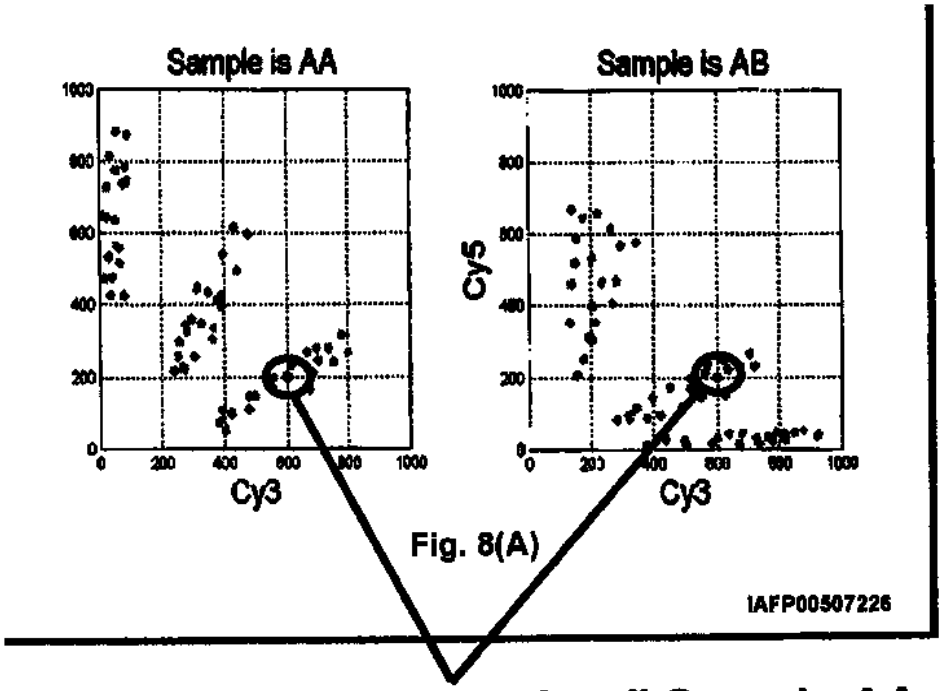
'716 patent: "comparison of probe intensities to each other"

- If A >> B – Call A
- If B >> A – Call B
- If A ~ B – No Call



GenCall does not make a base call based on comparing probe intensities to each other

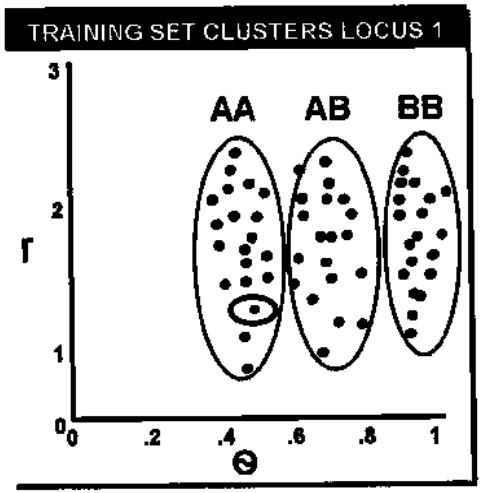


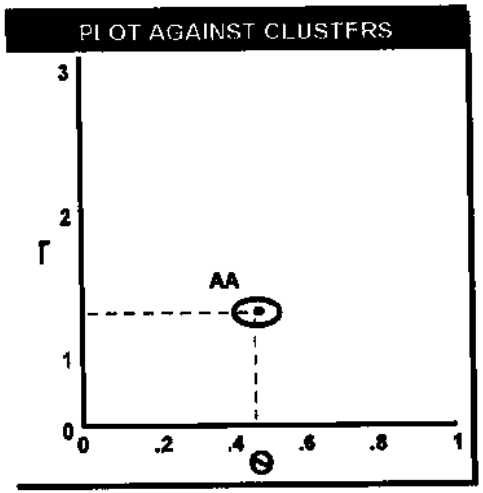


If "compared to each other," Sample AA and Sample AB have identical intensities

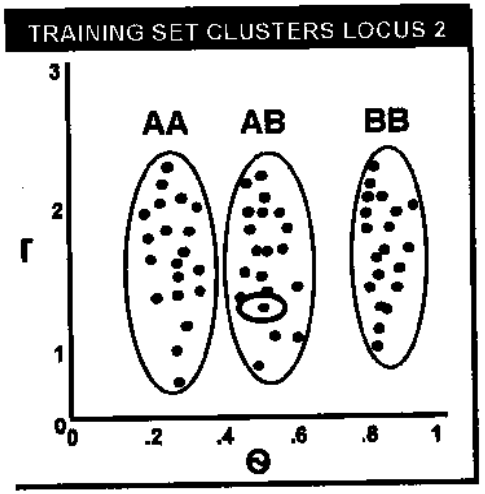
GenCall does not make a base call based on comparing probe intensities to each other

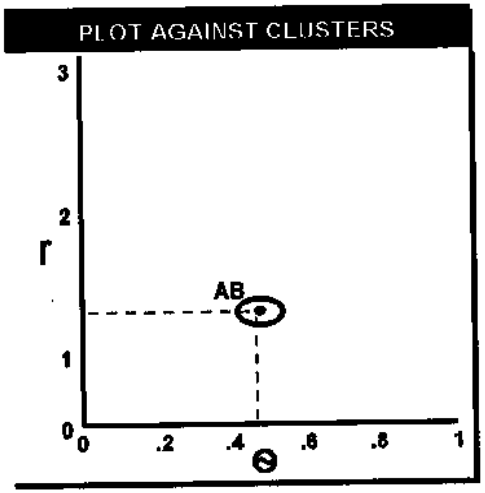
SAMPLE AA





SAMPLE AB





GenCall does not make a base call based on comparing probe intensities to each other

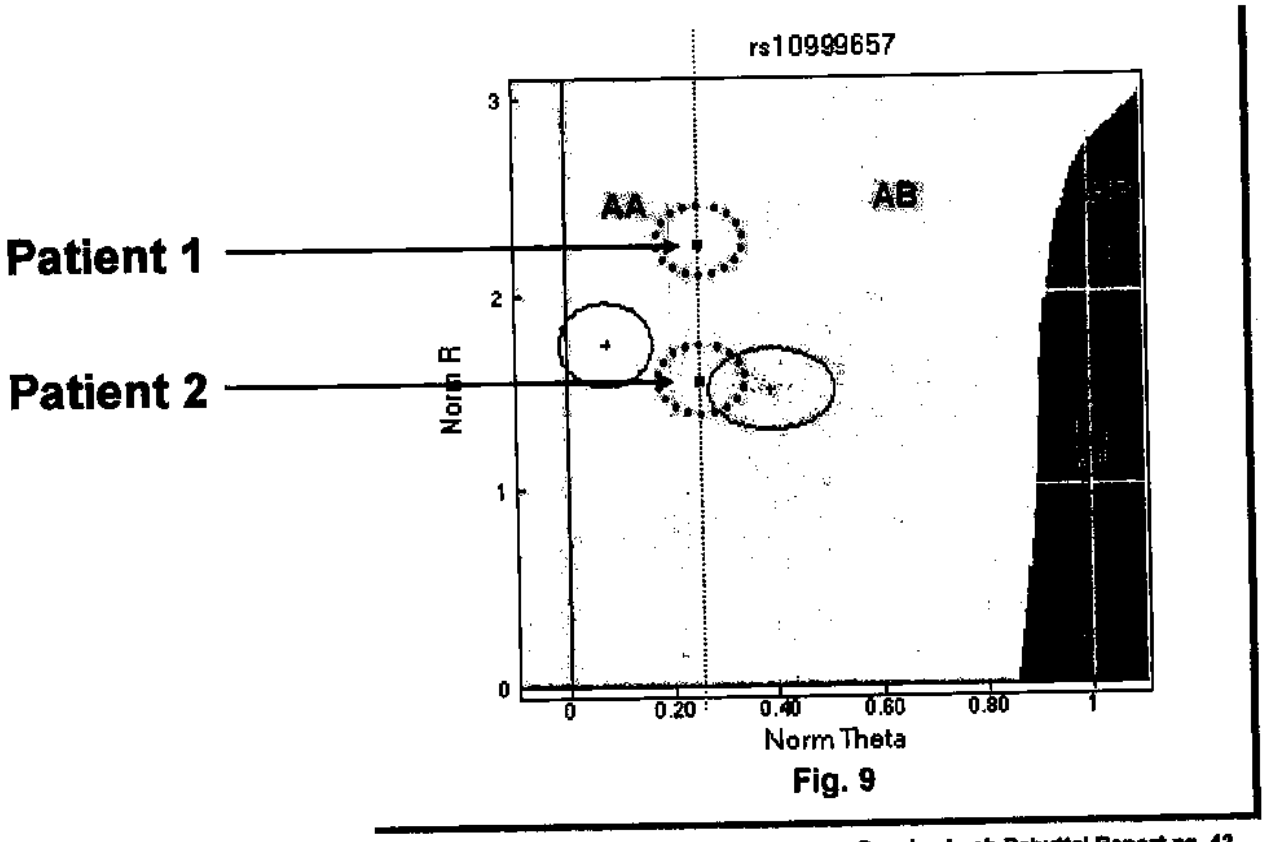


Fig. 9

Quackenbush Rebuttal Report pg. 42

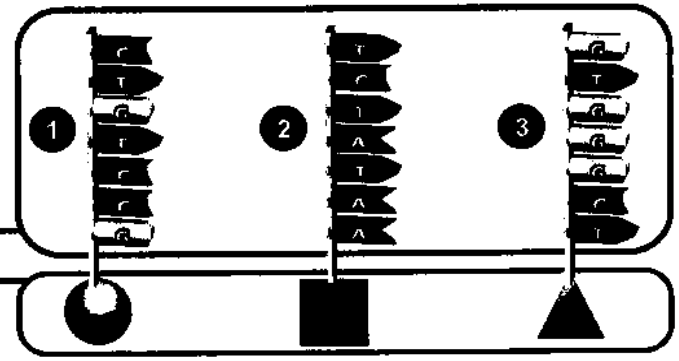
Data from Patient 1 and Patient 2 have same angle (*i.e.*, same comparison to each other) but *different* genotypes

No "Different Beads" Having Different Nucleic Acids

'243 Patent Claim 35

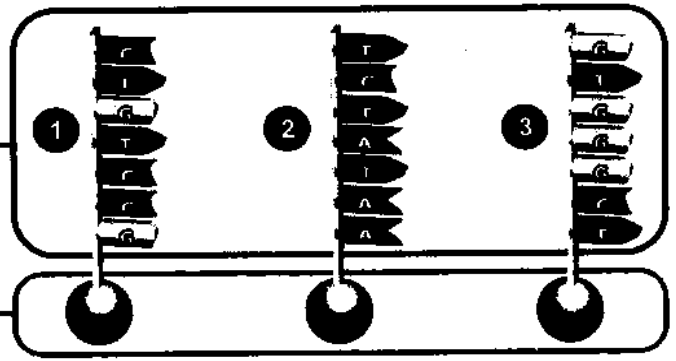
providing a substrate having an array of at least 1000 [redacted] the [redacted] occupying an area on a substrate of less than 1 cm2, at least some of the [redacted] having [redacted] covalently attached thereto;

Claim 35, '243 Patent, col. 31:62 - 32:13



Accused Methods

- Different nucleic acids
- NOT "different" beads



Beads Not Different Due To Different Nucleic Acids

Affymetrix Argument

Claim 35 . . . at least some of the different beads having different nucleic acids covalently attached thereto; '243 Patent, col. 31:67-32:1

=

. . . at least some of the ~~different~~ beads having different nucleic acids covalently attached thereto;

Correct Reading

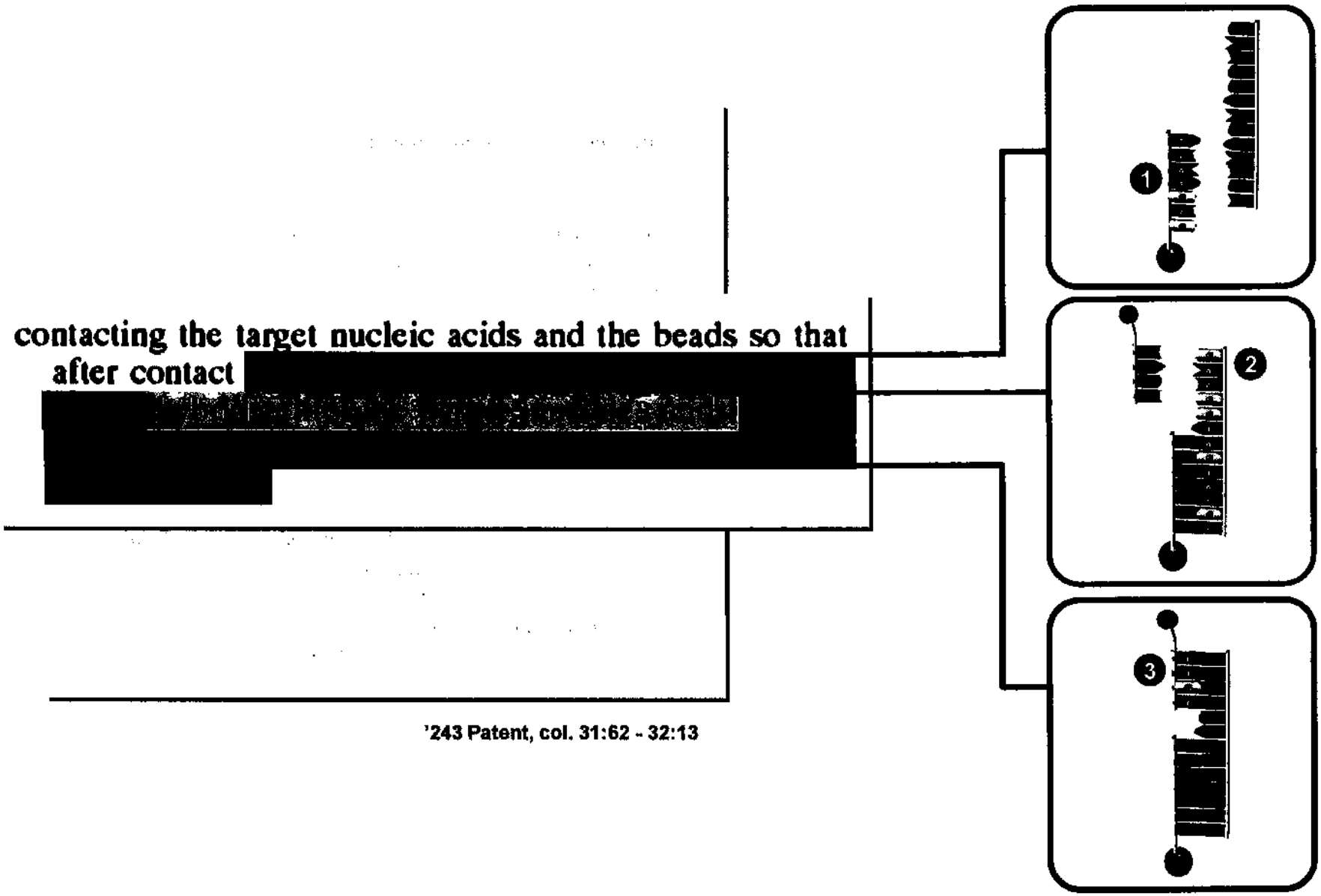
Claim 35 . . . at least some of the different beads having different nucleic acids covalently attached thereto; '243 Patent, col. 31:67-32:1

≠

. . . at least some of the ~~different~~ beads having different nucleic acids covalently attached thereto;

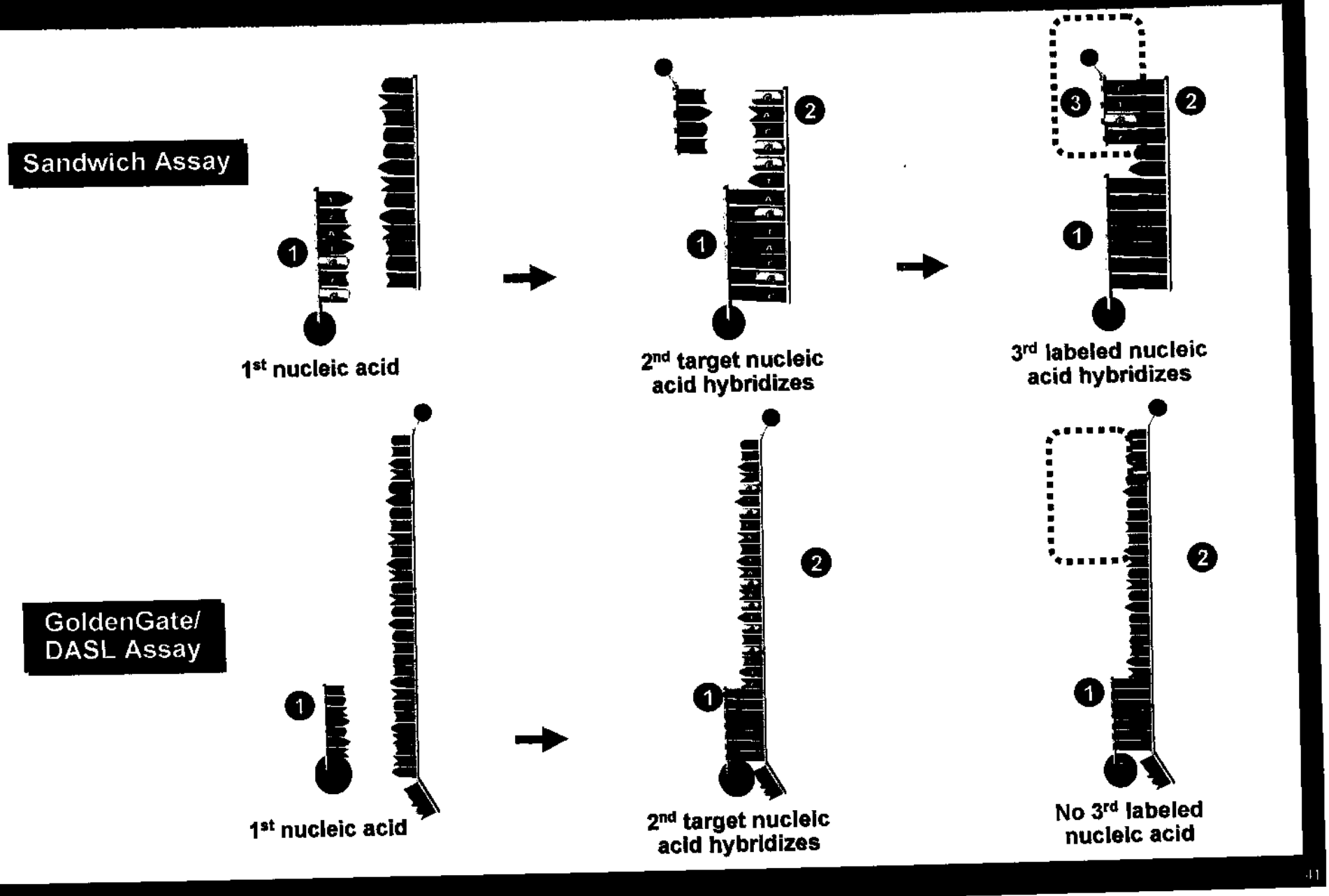
Claim 35 Describes A Sandwich Assay

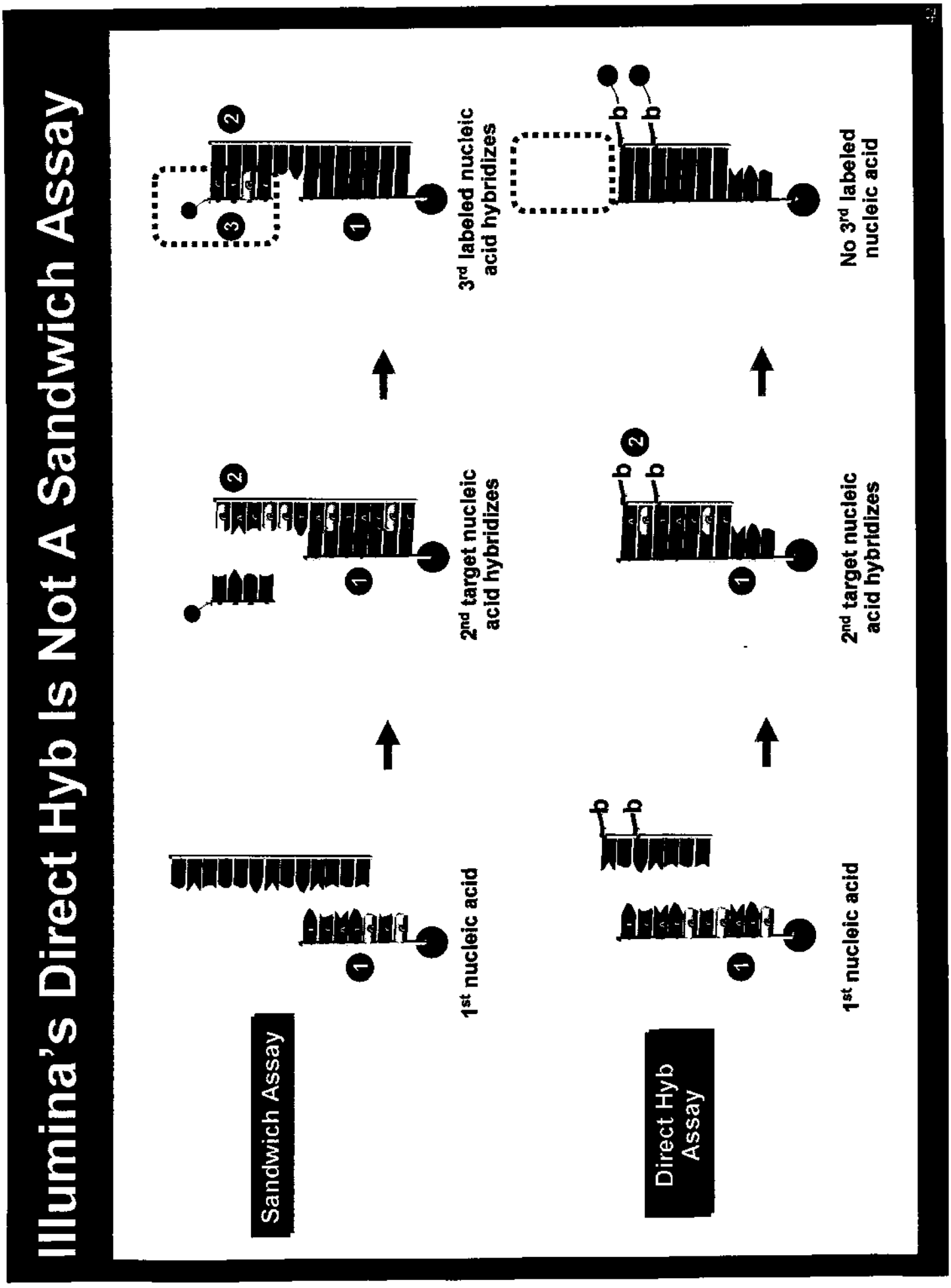
contacting the target nucleic acids and the beads so that after contact



'243 Patent, col. 31:62 - 32:13

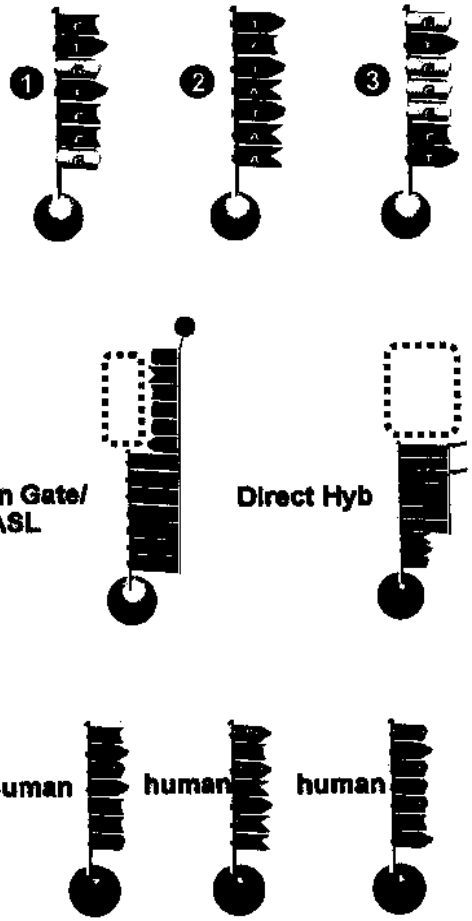
Illumina's GoldenGate/DASL Are Not Sandwich Assays




Illumina's Direct Hyb Is Not A Sandwich Assay
Sandwich Assay
1st nucleic acid
2nd target nucleic acid hybridizes
3rd labeled nucleic acid hybridizes
Direct Hyb Assay
1st nucleic acid
2nd target nucleic acid hybridizes
No 3rd labeled nucleic acid

Illumina Does Not Infringe The '243 Patent

- **No "different" beads (claims 14, 15, 35)**
- **Not a sandwich assay (claims 35)**
- **No different species of nucleic acids (claims 14, 15)**



Illumina Does Not Infringe The '243 Patent

Asserted Claims	Accused Products/Methods
Claim 14 Claim 15	▪ No "different beads" ▪ No "different species"
Claim 35	▪ No "different beads" ▪ Not a sandwich assay

Illumina Does Not Infringe The '243 Patent

Claim Requirements	Golden Gate/ DASL System	Direct Hyb System
Different Beads (claims 14, 15, 35)	**Beads are the same**	**Beads are the same**
Different Species of Nucleic Acids (claims 14, 15)	**No "different species" of nucleic acids**	**No "different species" of nucleic acids**
Sandwich Assay (claims 35)	**Not a sandwich assay**	**Not a sandwich assay**

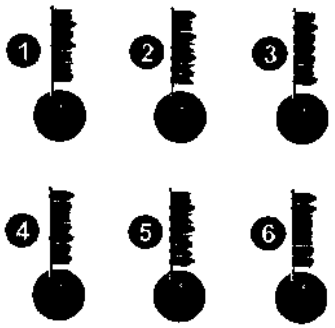
Different Beads Cannot Be Distinguished By The Sequence Attached

Claim 35

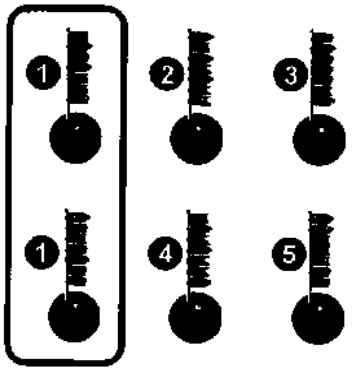
> . . . at least some of the different beads having different nucleic acids covalently attached thereto;
>
> '243 Patent, col. 31:67-32:1

Some of the different beads having the same nucleic acids

Affymetrix Argument

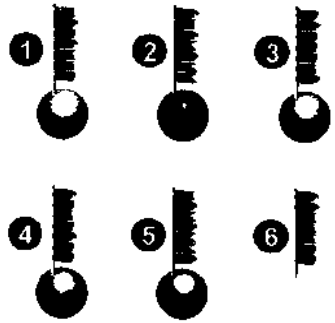


Only difference between beads is different nucleic acids attached

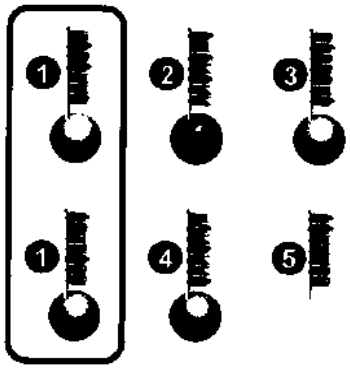


Not "different" beads

Correct Reading



"Different beads having different nucleic acids" attached



"Different" beads

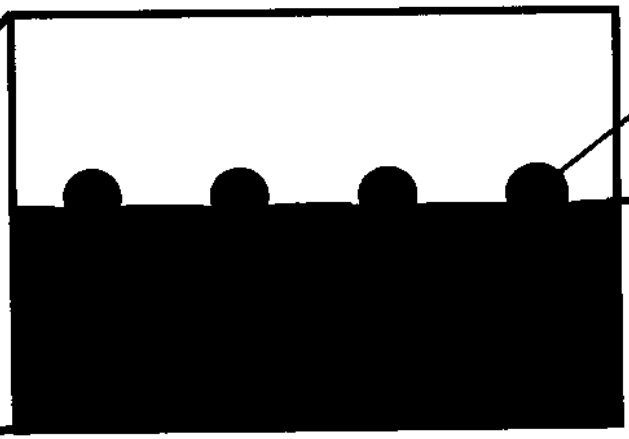
Illumina's Array Matrix And BeadChip Do Not Have A Single Surface

Court's Claim Construction

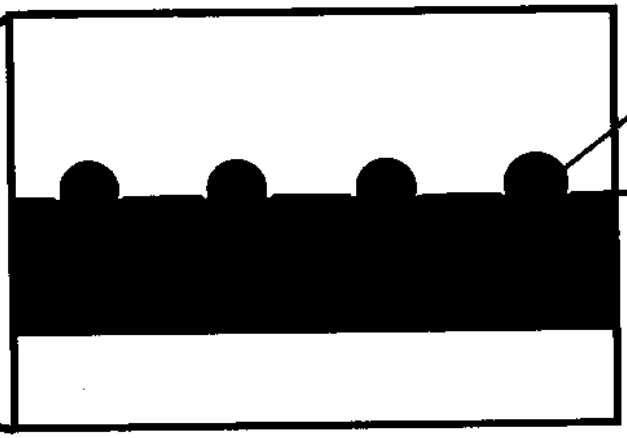
The term "Substrate," as used in the claims of U.S. Patent No. 6,646,243, means "a material having a rigid or semi-rigid surface;"

Markman Order, ¶ 3.

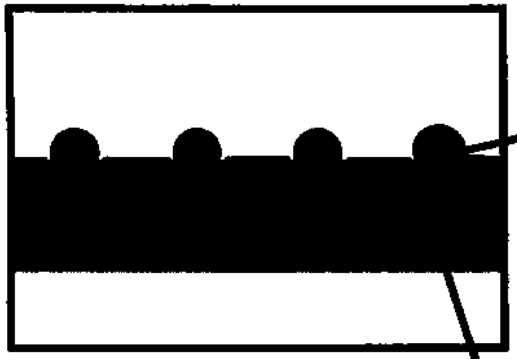
SAM underside



BeadChip



Each Bead's Surface Is Separate From The Well Surface



Entire bead surface is accessible

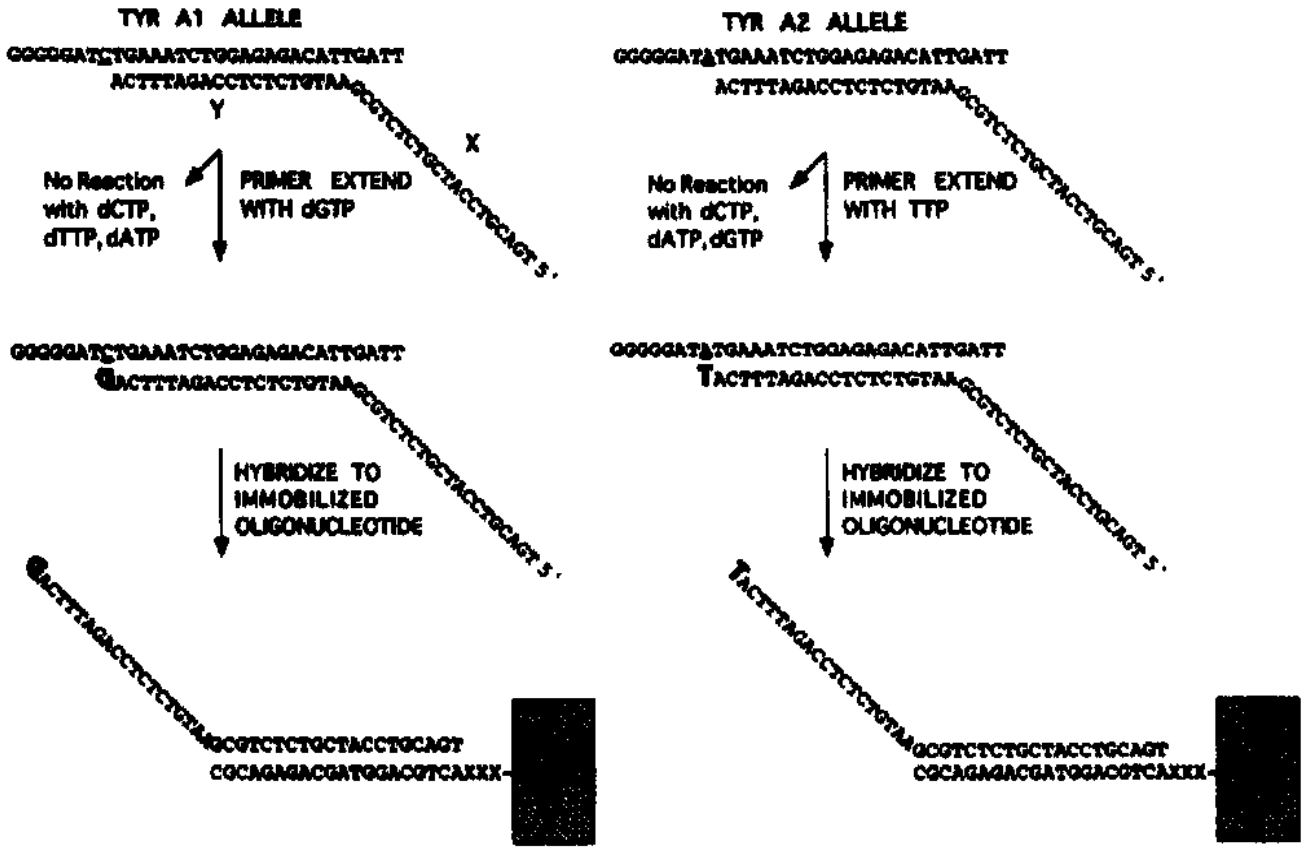


Figure 1. A schematic description of the AS-PE-capture method for the detection of alleles of the human TYR locus. T or G labeled using α-^{32}P TTP and α-^{32}P dGTP, respectively.

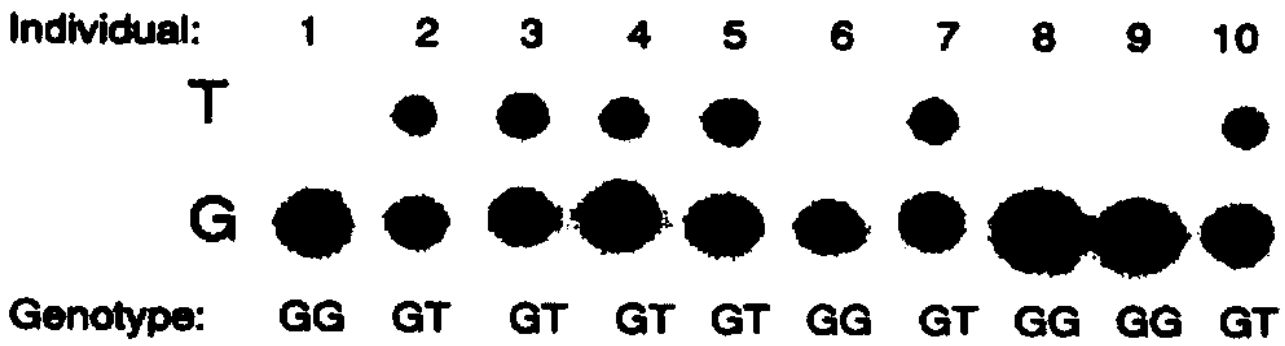
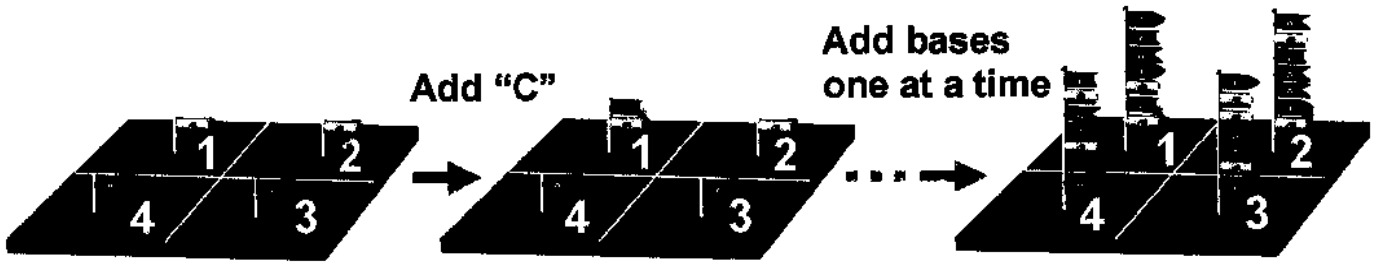


Figure 2. Hybridization of the AS-PE products to immobilized 3' amino-oligonucleotide. DNA from 10 individuals was amplified with TYR 1 and TYR 2 primers (Table 1) and the amplification products subjected to the AS-PE-capture method.

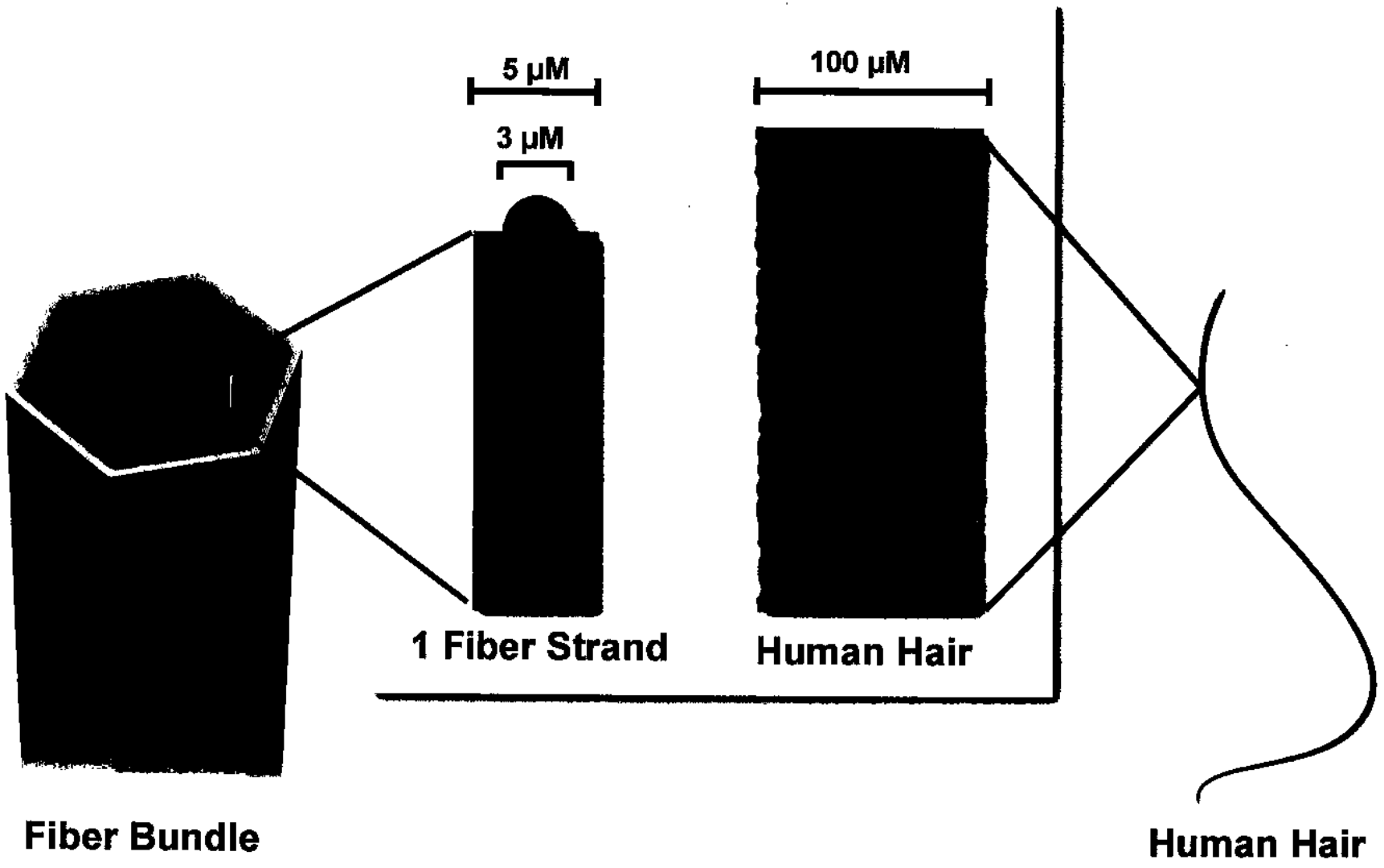
"*In Situ*" Array

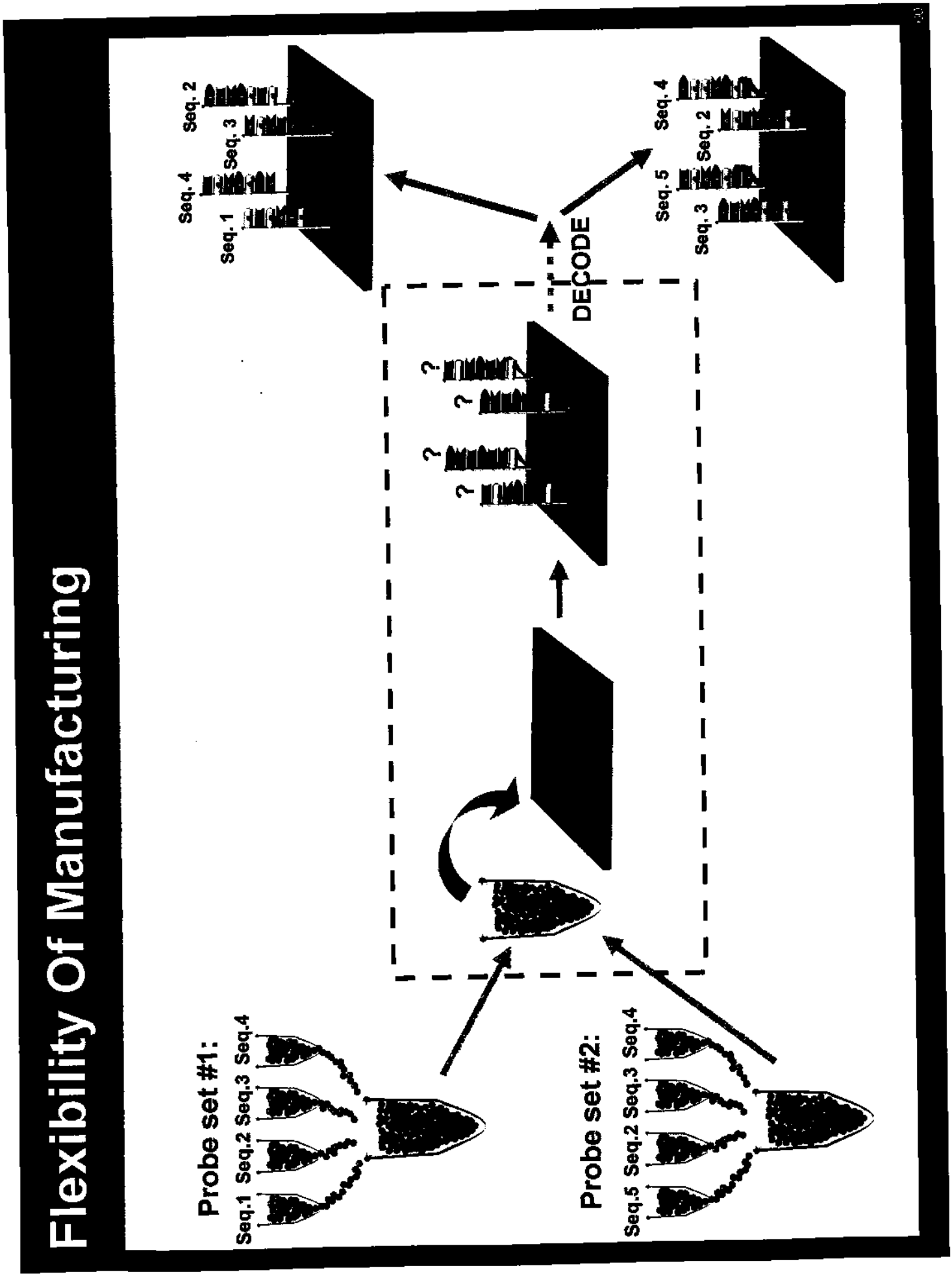
Probe Set #1

Position	Sequence
1	GCGTACT
2	GTAACGA
3	CGTAGGT
4	ATGTAGC

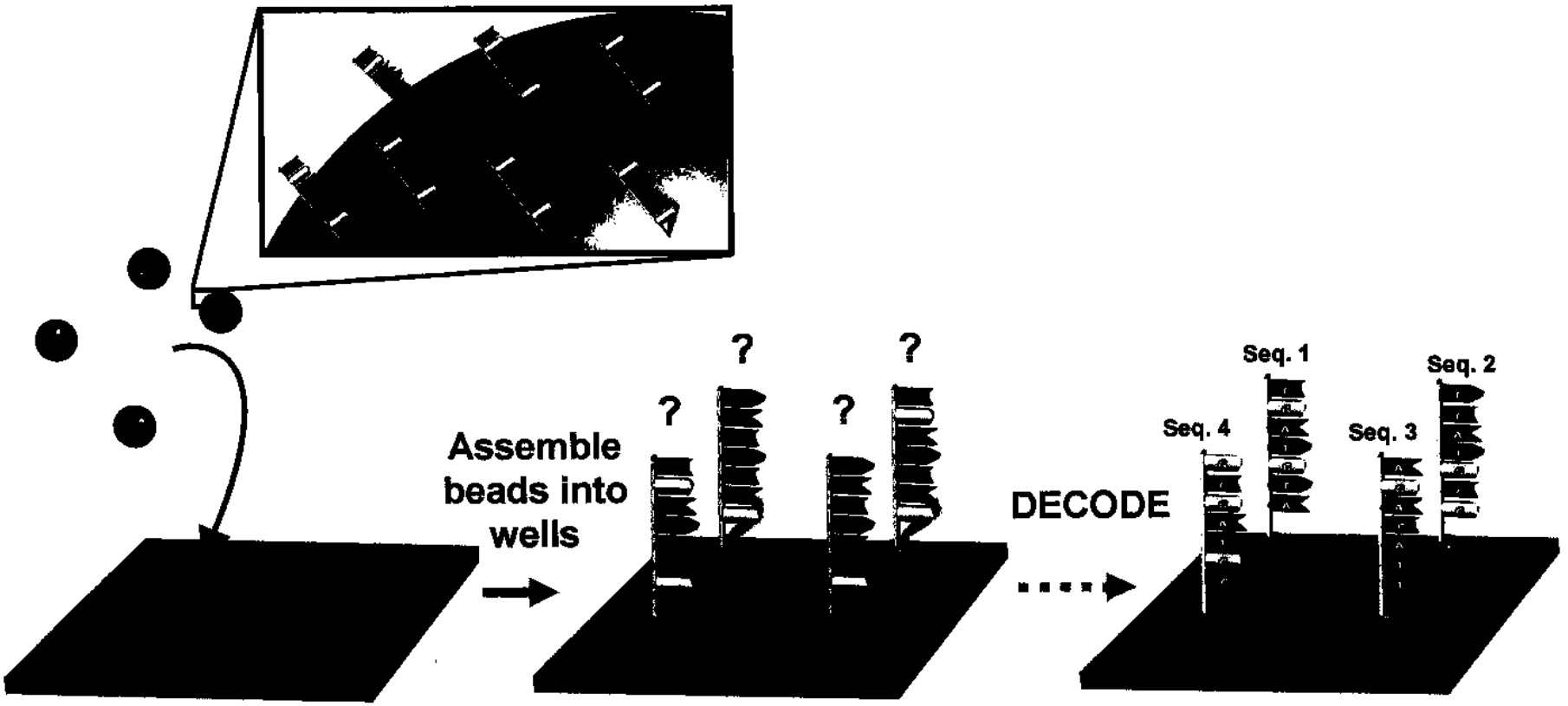


Beads Used In Illumina's Arrays




Flexibility Of Manufacturing
Probe set #1:
Seq.1 Seq.2 Seq.3 Seq.4
Probe set #2:
Seq.5 Seq.2 Seq.3 Seq.4
DECODE
Seq. 1
Seq. 4
Seq. 3
Seq. 2
Seq. 3
Seq. 5
Seq. 2
Seq. 4
? ? ? ?

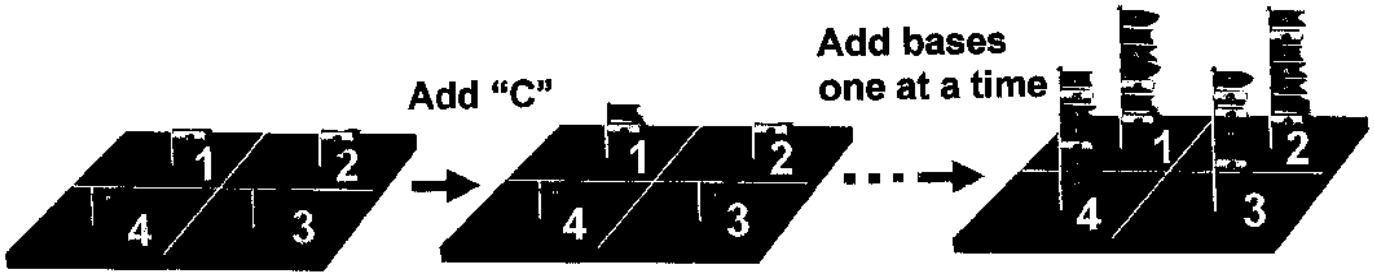
Illumina's Random Arrays



In Situ Arrays Lack Flexibility

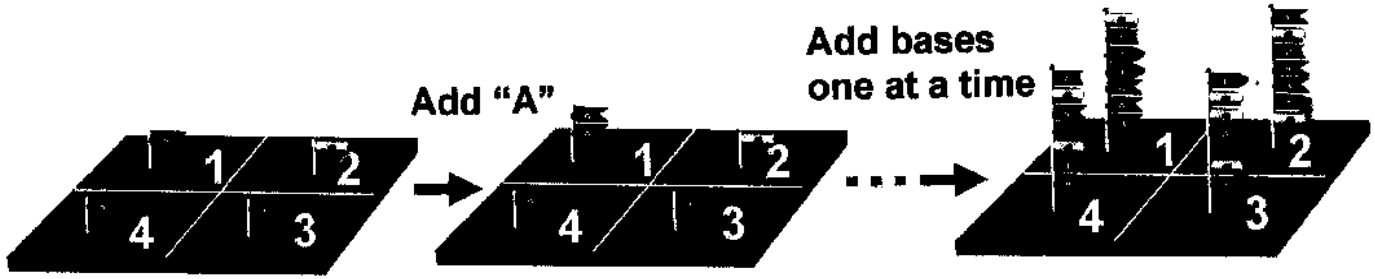
Probe Set #1

Position	Sequence
1	GCGTACT
2	GTAACGA
3	CGTAGGT
4	ATGTAGC



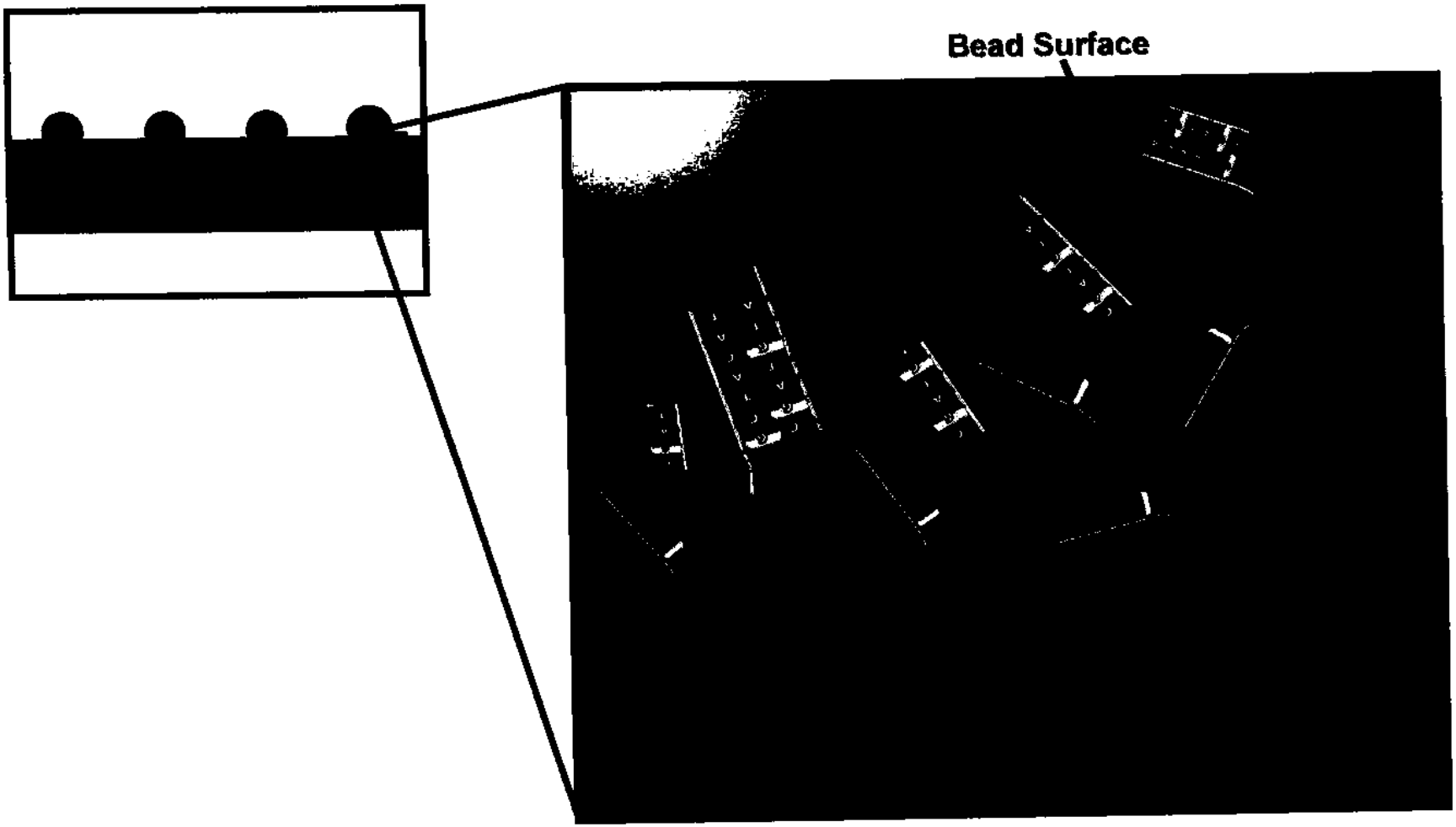
Probe Set #2

Position	Sequence
1	AAATTCG
2	GTAACGA
3	CGTAGGT
4	ATGTAGC

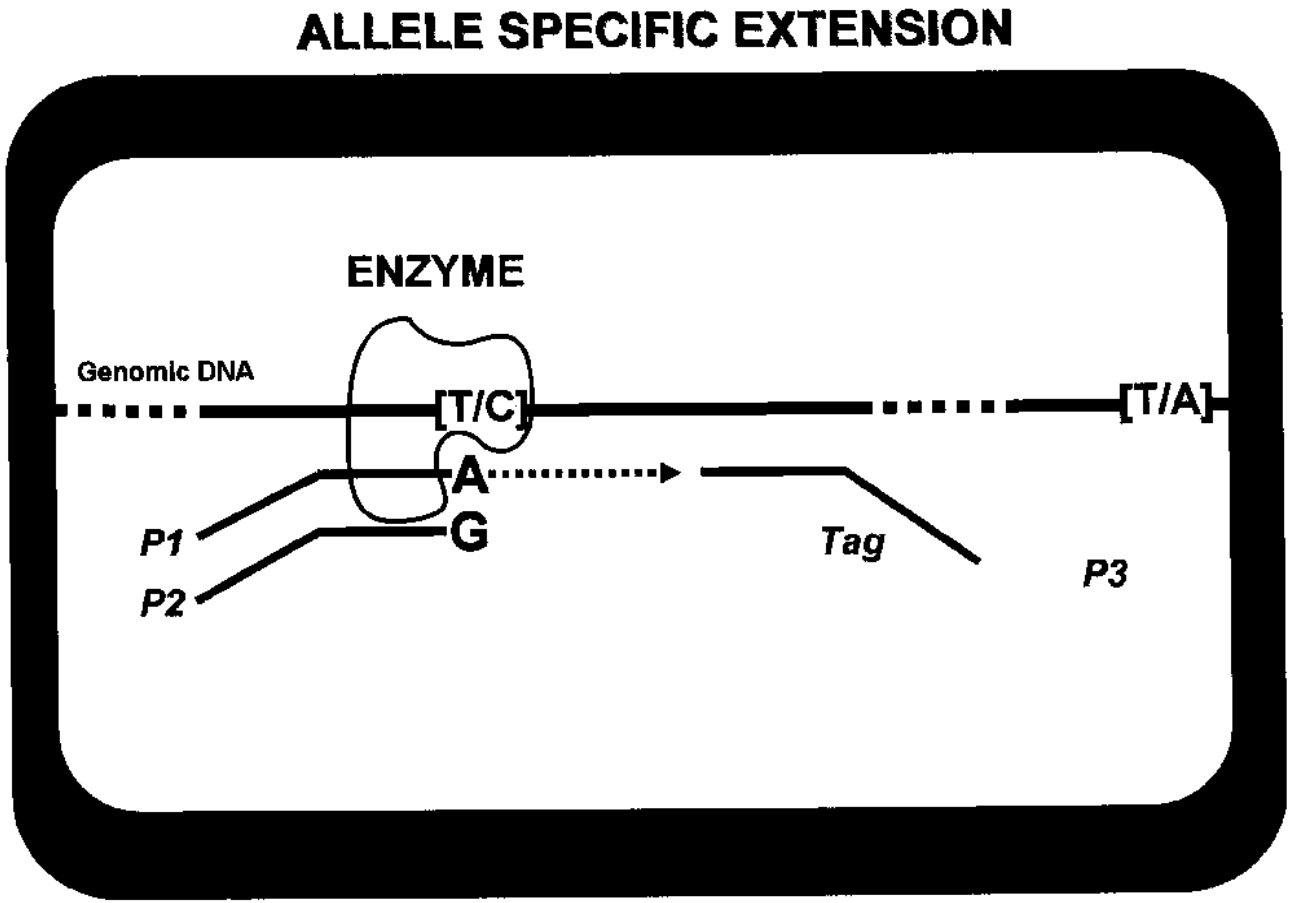


Change in DNA content requires changing manufacturing steps

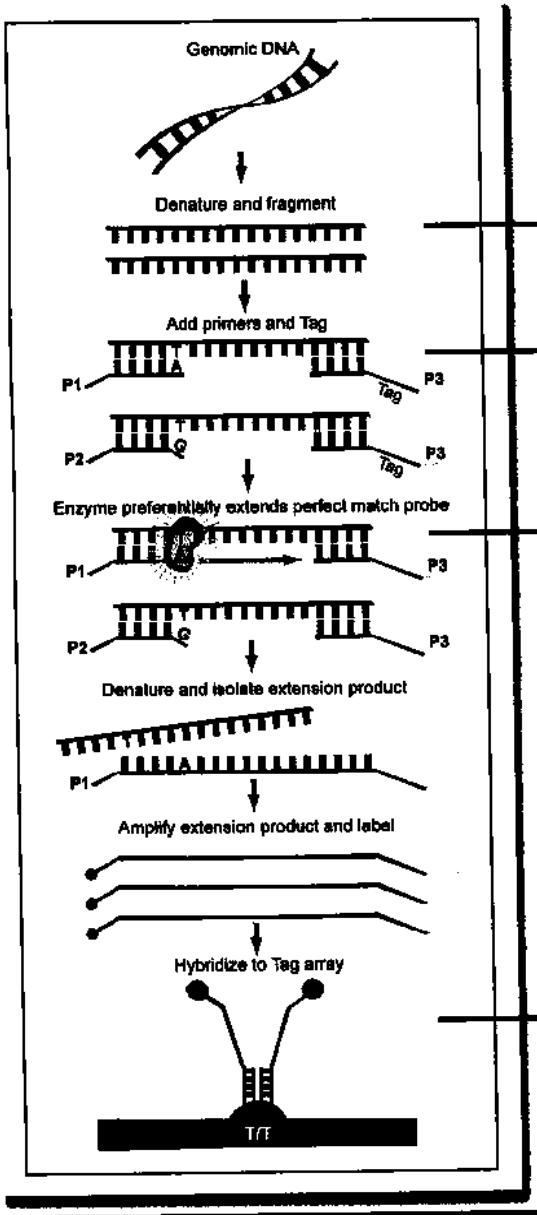
Entire Bead Surface Accessible For Chemical Reactions



GoldenGate Assay

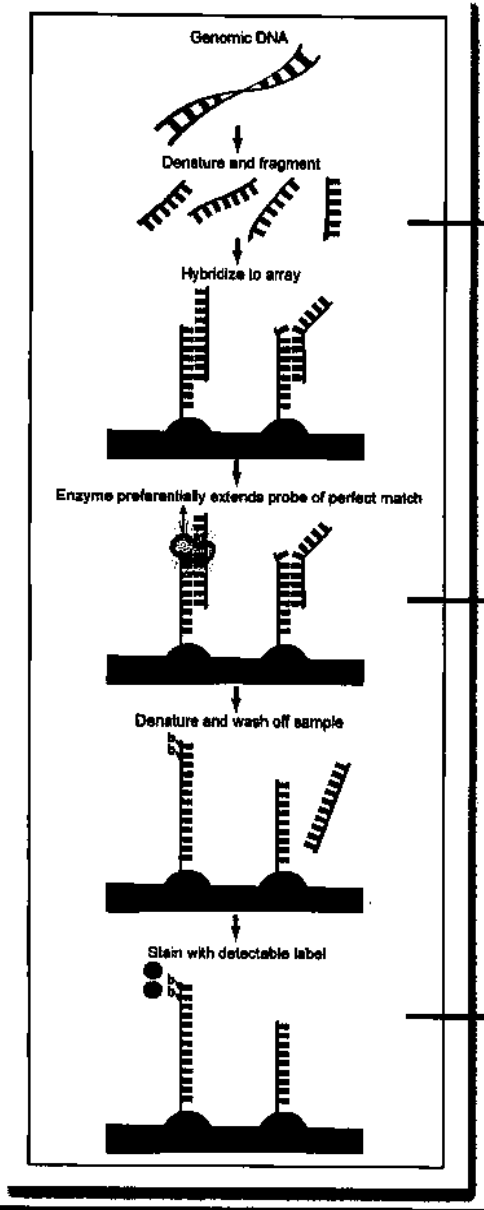


Illumina's GoldenGate does not infringe the '716 patent



- **No *labeled* sample nucleic acid** (sample is *never* labeled)
- **No probe location** (probe in solution)
- **No probe intensity indicating relative strength of binding** (intensity indicates preferential extension by enzyme)
- **No intensity from labeled sample nucleic acid hybridized to probe location** (only tag of enzyme-extended probe bound to address)

Illumina's Infinium does not infringe the '716 patent



- **No *labeled* sample nucleic acid** (sample is *never* labeled)
- **No probe intensity indicating relative strength of binding** (intensity indicates preferential extension by enzyme)
- **No intensity from labeled sample nucleic acid hybridized to probe location** (label only on enzyme-extended probe)

'716 Patent Claim 1 v. Claim 5

'716 Patent Claim 1

What is claimed is:

1. A computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other;

computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes; and

a computer readable medium that stores said computer codes.

'716 Patent col. 41:59-67; 42:59-67

'716 Patent Claim 5

5. A system that identifies an unknown base in a sample nucleic acid sequence, comprising:

a processor; and

a computer readable medium coupled to said processor for storing a computer program comprising:

computer code that receives a plurality of signals corresponding to probe intensities for a plurality of nucleic acid probes, each probe intensity indicating an extent of hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence, and each nucleic acid probe differing from each other by at least a single base;

computer code that performs a comparison of said plurality of probe intensities to each other; and

computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes.

'716 Patent col. 43:65-67; 44:1-15

GoldenGate does not have an "array of probes" of claim 9

Probes are complementary to a labeled sample nucleic acid

'716 Patent Claim 9

9. A system according to claims 5, 6, 7, or 8, wherein the plurality of nucleic acid probes are in an array of probes.

'716 Patent Claim 5

5. A system that identifies an unknown base in a sample nucleic acid sequence, comprising:

a processor; and

a computer readable medium coupled to said processor for storing a computer program comprising:

computer code that receives a plurality of signals

hybridization of a nucleic acid probe with at least one nucleic acid sequence including said sample sequence,

computer code that performs a comparison of said plurality of probe intensities to each other; and

computer code that generates a base call identifying said unknown base according to results of said comparison and said sequences of said nucleic acid probes.

'716 Patent col. 43:65-67; 44:1-15

GoldenGate does not have array of probes that are complementary to a labeled sample nucleic acid

GoldenGate Assay